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USE OF NARCOTICS IN THE TREATMENT OF NERVOUS AND MENTAL PATIENTS *

BY

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When I was asked to open this discussion before the combined Section of Neurology and Psychological Medicine I protested that I was neither a neurologist nor a psychiatrist. It was thought, however, that some observations by a general physician might prove a good jumping-off ground for the experience of those engaged in these two special branches of medicine. I concurred in this, but I will frankly admit that my acceptance of the invitation was influenced quite as much by my desire to pay homage to the doyen of psychological medicine, whose personal request had so honoured me, as by any other consideration. I shall assume the privilege of opener to present the subject from rather a wide outlook, because my own work leads me inevitably to take such a view, and although the essence of the discussion will turn upon the use of drugs, it can scarcely be out of place for the opener to consider exactly where drugs stand in relation to other measures and what are the indications for their use.

Clearly the term "narcotics," as used in this discussion, is generic, and includes measures that allay pain, whether mental or physical, as well as measures that induce sleep. Otherwise we tend to make a convenient distinction between pain killers or narcotics proper, sleep producers or hypnotics, and measures which bring quiet and poise to the nervous system or sedatives. There is considerable overlap between these groups of therapeutic agents. All narcotics help to produce sleep, either indirectly or directly, but all hypnotics do not relieve pain unless used in doses large enough to produce unconsciousness which is more than mere sleep. In this case they are termed anaesthetics, and are, strictly speaking, outside the limits of our discussion. When the chief cause of sleeplessness is pain then even mild doses of narcotics, by allaying it, may induce sleep indirectly rather than directly, and sedatives, by cooling the fevered brain, prepare the patient for sleep which is then more natural than artificial.

Causes of Insomnia

The key to the successful treatment of insomnia, as in every other disease, is a correct diagnosis. We must track down the cause or causes. Psychical causes have been termed "primary," as against pain, fever, etc., which are regarded as "secondary." But sleep is so essentially a function of the whole organism that such a classification is as unsatisfactory as are most classifications in regard to diseases. Anxiety, or mental pain, is not the only psychical cause of sleeplessness; all the emotions (remorse, fear, love, anger, sorrow, even joy) may give rise to it. These things require psychological treatment rather than, or as well as, drugs. The attitude of the patient's mind towards sleep and sleeplessness is sometimes very important, and especially the fear that want of sleep may cause him permanent injury. The fact that most people sleep more than is necessary, just as they eat more than is necessary, may be made use of in order to reassure the patient who is troubled on this score.

Purely intellectual brain work rarely, if ever, causes insomnia, provided the work be done under reasonably good physical conditions. But excitement—over-stimulation of the mind—frequently does. How, therefore, the patient spends the day, and especially the end of the day, is an important consideration. In some persons excess of bodily fatigue produces insomnia. More frequent causes are the various forms of dyspepsia, and in this category flatulence is a much more common factor than is pain. Here care is needed in the choice of food and the time of the last meal. Some patients sleep better if no food has been taken for at least two hours, and others if they take a little food just before retiring. For the dyspeptics the best hypnotics may well be an alkali, a carminative, or an antispasmodic.

Circulatory and respiratory troubles carry their special indications. Cough is a great disturber of sleep, and has its own list of causes needing consideration. Defects in the nose and other parts of the upper respiratory tract may also call for treatment; so also does pain, whether inflammatory, visceral, or due to direct nerve irritation as in sciatica and other forms of neuritis—or in neuralgia.

Fever, usually associated with toxaemia, demands special attention when present. Doctors and nurses who have not had experience of dealing with typhoid fever patients find themselves at a loss when the relatively unusual case of this disease appears in a severe form. When typhoid was much more rife and much more serious the routine was better understood and better practised. The influenza epidemic of 1918 found many practitioners ill prepared for the treatment of the sleepless pyrexial patient, the cardinal principle of adapting the bed-clothes to the height of the temperature, for example, rather than to the feelings of the patient, being often neglected. Organic brain diseases not infrequently demand hypnotic therapy, and this even when there is a general subsidence of the cerebral functions so that the patient is quiet for hours together. Encephalitis lethargica sometimes deceives us into thinking that the patient does not need sleep, and this may be a serious error.

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Insomnia without Mental or Physical Cause

But we may assume that all these so-called secondary causes of insomnia have been passed in review and have been dealt with so far as is possible. We pass on to the "primary" causes of insomnia. Of course the major psychoses form a very important group; those characterized by excitement are not the only ones requiring hypnotic measures: states of depression may need them quite as much. I shall be followed by speakers who have special experience of handling these patients, so I shall not deal specifically with them. But the sleepless patient who is not the victim of any gross morbid mental defect on the one hand, and who does not suffer from structural bodily disease on the other, presents a problem to all who engage in general medicine.

Before we decide to use any hypnotic drug we cannot know too much about the patient, both his body and his soul. Not infrequently he needs no drug at all, but rather a careful rearrangement of his routine and his habits, and perhaps the restoration of confidence in his ability to sleep, which he may have lost. It is necessary to consider first of all certain general measures. The patient may be, as many of us are, sensitive to noise. If he is intelligent it is not perhaps the actual volume of sound during the night which keeps him awake so much as his appreciation of the fact that certain noises are needless and preventible. This sense of the fitness of things is disturbed, and a process of thought is set going on the matter and a feeling of provocation. Some of us are trying to remedy this evil of needless noise, and I am glad to see that this Association has thought well to express sympathy with our efforts. Next to quiet comes fresh air—proper ventilation of the bedroom. But it must be admitted that if fresh air can only be secured at the expense of extra noise, many patients find that they sleep better if they exclude both.

There is great individual difference in the matter of darkness or light, as there is in that of warmth or coolness; in these things the patient is often a law unto himself. So also is he, as already observed, when food is considered. But in the matter of mental relaxation as a preparation for sleep we probably all follow the same rule, that the more complete this is the more certainly will sleep come to us. Two other general considerations deserve mention—posture and the bed the patient lies on: here are materials for experiment in individual cases.

Indications for Salicylic Preparations

When we come to the question of drugs it is always worth while to consider the simpler remedies first. I have referred already to alkalis, and to carminatives. The salicylic preparations, and especially aspirin, are frequently very useful. Ten grains each of bicarbonate of soda and aspirin—powdered, of course, rather than in tablet form—constitute one of the most useful sleep producers for simple cases of restlessness that I know. The addition of the same dose of bromide of sodium or ammonium will often be effective in even more tiresome cases, where it is important to put a mute upon a too active mind. Smaller doses of pyramidon, or phenacetin, or antipyrine, or a mixture of these, find their indication in another series of cases where there are physical discomforts, such as headache, eyestrain, myalgia, or over-fatigue in the bodily, rather than in the mental, sense. As pure sedatives the bromides are far and away our most useful preparations for controlling discharges of central nerve energy, whether paroxysmal and purposeless as in epilepsy or merely excessive and wasteful.

Of alcohol as a narcotic much might be said. To the teetotaller it is an excitant, and therefore quite useless. To the person accustomed to take it in moderation certain forms of it act as a mild and useful sedative.

Opium, Hyoscine, and Chloral

The great indication for opium and its derivatives is pain, in the presence of which sleep becomes impossible. This is especially so in those conditions in which pain tends to show exacerbations during the night. It is generally quite useless to prescribe pure hypnotics when insomnia is the direct result of physical pain. But the addition of a small dose of such a drug as medinal to an opiate sometimes enables us to give less of the latter than would otherwise be needed. Opium has an undoubted function in some forms of mental pain; very small doses serve at times to produce a state of euphoria, which is helpful in the re-education of the patient's mind along the lines of increased confidence. The older physicians prescribed tinct. camph. co. for the hypochondriac, and one of the best remedies I know for that state of *misère* from which patients of a pessimistic type not infrequently suffer over long periods is a grain of pil. saponis co. twice or three times a day. It has the advantage of not revealing the nature of its essential ingredient, a not unimportant point in these days, when most patients read their prescriptions before they leave our consulting rooms.

The good effects of hyoscine in Parkinson's disease and post-encephalitic Parkinsonism are well known; but this drug is worth exploiting also in some allied states, though always in the smallest doses. For controlling excitement and delirium it is rather dangerous, or so I think. I have seen an excited pneumonic patient felled by it as one fells an ox, the quiet so effectually produced becoming quickly the quiet of death. I do not use the drug in delirium associated with acute infections, or with organic visceral disease. In such patients I rely very largely upon the somewhat old-fashioned mixture of bromide with chloral, and I control delirium tremens by the same mixture, being careful to begin its use too early rather than too late.

Chloral has, I think, gone out of fashion undeservedly. Strangely enough, even bromidia, possessing as it does the attraction of being proprietary, and containing a little of that drug so tinged with romance—cannabis indica—is used very much less to-day than formerly. As to cannabis indica, it is unlikely that many specimens are active, and, when they are, their action is so erratic and individual that it seems largely a gamble if the patient is helped rather than hindered in his search for mental rest.

Of the others of the older group of narcotics, paraldehyde, despite its unpleasantness, still retains a good deal of popularity. Few know the hint given many years ago by Bevan Lewis that tinct. quillaiae is its best adjuvant. The drug is an alcohol, and therefore acts incidentally as a volatile stimulant—one reason, no doubt, why, with all its nauseous qualities, it becomes occasionally the object of a drug habit. I have known a patient consume a pint in the twenty-four hours, and I remember diagnosing the case as I passed up the street and knocked at the door. For the rest, sulphonal, trional, and chloralamide seem to have lost favour, though we shall doubtless hear if this is as much so in asylum practice as it is in general work. This is an age when direct action is popular, and these drugs, to get their best effects, must be given some time before, and not immediately before, their effect is desired.

Intermediate between these older narcotics and the barbituric group are two bromide-urea compounds which deserve mention—bromural and adalin. I find them both useful, and since not a few patients remind me of the danger of what they call "dope," I am able to assure them that certain recent cautions applied to drugs of an entirely different class.

The Place of the Barbiturates

There is no doubt whatever, I think, that the introduction of the newer group of narcotics, termed "the bar-

biturates," has been a great boon to medicine. I refer, of course, to veronal, medinal, luminal, dial, allonal, and nembutal. Not that this exhausts the list: the ingenuity of the chemist and the pharmacist sees to it that the list shall be endless. The British patient, just back from the Black Forest or from Lausanne, proudly takes a carton of the latest isomer of veronal out of her pocket or vanity bag and says: "You will not have seen this new drug, doctor." And she is quite frequently correct. It is claimed for the new preparation that it has all the virtues and none of the drawbacks of the old, and so it may be taken with advantage and with impunity. It seems a pity to dash these hopes in the patient's mind, and, to tell truth, we British are too good doctors to yield to the temptation.

The chief reasons that the barbiturates mark an advance in our available narcotics is that the dosage is more exact and the effects more constant. The number of patients possessing intolerance is very small, and I think the ill effects which have been adduced against their use have been exaggerated.

May I now deal with a few general considerations? In the first place we should remember that there is no ideal hypnotic. To get a constantly reliable effect without passing through a preliminary stage of excitement, to get no gastric irritation or cardiac depression, to get rapid assimilation and equally rapid and complete excretion, and, finally, to get no tolerance established—to get all these things in any drug is impossible. But certain of the barbiturates seem to attain more nearly to this ideal than any other narcotics known to us.

It is not the drug but the drug habit that calls for condemnation. Stimulants and sedatives provide a means of relative or entire escape from the troubles of life, and in this respect narcotics do not differ from alcohol, cocaine, tobacco, and tea. Sleep is one of the safest and pleasantest forms of escaping life. Some folk are able to form this habit of escape without drugs; they are quite as vicious as their less fortunate brothers and sisters who need a drug in order to achieve this blessed oblivion.

I suggest that we pay more attention to the state of the patient's mind and nervous system and less attention to the mere provision of sleep. If we can help him to a state of equanimity during the day, sleep will be more easily won during the night. This leads me to refer to the fact that if half the evening dose of a narcotic be given in the morning and the other half at bedtime the effect is frequently much better. Even such a small dose of medinal as 2 to 2½ grains, say, with 5 grains of bromide, given at (say) eleven in the morning and again on retiring, may be more helpful than if the whole dose be given at bedtime. For one thing the patient is not strung up for the moment of doubt and fear that faces him when the night comes, itself a deterrent against sleep. Again, he does not regard the medicine as a dope of which he is afraid or ashamed, or both—more deterrents.

In other matters it is the day that counts. Patients not infrequently resist a tendency to sleep during the day, lest giving way should prejudice their chances of sleep during the night. I think this is an error. Sleep is a habit—protective no doubt—and I have sometimes found patients sleep better at night if they encourage a doze midday.

Finally, let us remember the efficacy of the sleeping draught (in these days I suppose I should say the sleeping tablet) that is not taken, but stands by the bedside "in case." We must not deny the patient this boon; indeed, we may now insist upon it, for the fear of the dope has with many become greater than the fear of sleeplessness, and we must avail ourselves in the patient's interest of this new fear while it lasts.

OVARIAN CONDITIONS AS CAUSES OF PELVIC PAIN*

BY

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I welcome the opportunity of being one of the openers of a discussion on ovarian conditions as causes of pelvic pain because the subject is of interest to general practitioner and gynaecologist alike, and both will probably agree that so-called ovarian pain is one of the bugbears of medical practice. The word "bugbear" means "something frightful, as a spectre, or anything imaginary which arouses needless fear," and can only be rightly applied to pain that is supposed to, but does not actually, arise in the ovary. The object of our discussion to-day is to decide what conditions of the ovary do produce pain, or, conversely, how much of the so-called "ovarian" pain is really of ovarian origin.

Before attacking the main problem I would like to recall a few facts concerning the anatomy and physiology of the ovary. Although lying within the abdomen the ovary is not covered by peritoneum, but by a layer of cells, often imperfectly preserved, known as the germinal epithelium. This arrangement no doubt facilitates ovulation. T. C. Clare[1] has pointed out that the ovary is also unique in a physiological sense in that it is the only organ in the body normally subject to trauma and consequent reparatory changes. The trauma consists of the surface wound occurring at the time of rupture of the follicle; the reparatory process is the formation of the small scar by which the lesion is repaired. These two factors, together with a third—the periodic increase of tension within the ovary associated with ripening of the follicle and formation of the corpus luteum—have all to be considered in connexion with the subject of ovarian pain. The presence of follicular cysts in an ovary which is not adherent may be regarded as evidence of disordered function due to overactivity of the anterior pituitary, or, as suggested by Clare, increased formation of fibrous tissue (keloid) in the scars of the ruptured follicles, it being well known that there are wide variations in the regenerative capacity of different individuals.

The ovary is attached to the back of the broad ligament by its hilum, and as both uterus and broad ligament have considerable mobility the position of the ovary must be constantly changing.

The ovarian blood supply comes from both ovarian and uterine arteries, and the venous return is through the pampiniform plexus to the uterine and ovarian veins. On the left side the venous return is said to be somewhat hindered by the fact that the ovarian opens into the renal vein and not directly into the vena cava, but it must be remembered that the pampiniform plexus also drains through the uterine into the internal iliac veins.

The nerve supply is from the aortic plexus of the autonomic system, and reaches the ovary by way of the infundibulo-pelvic ligament and hilum. The surface of the ovary appears to be insensitive to mechanical stimuli, but firm pressure produces, as in the case of the testis, a sickening pain. True ovarian pain is splanchnic, and apparently of a low order; reflected superficial pain of ovarian origin only occurs when the parietal peritoneum is irritated by the ovary.

To simplify the discussion I have divided the ovarian conditions which may produce pelvic pain into four groups, under the headings functional, mechanical, inflam-

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matory, and neoplastic, but as they cover such a wide field and the space at my disposal is limited I propose to devote the greater part of this paper to a consideration of the functional group.

Functional Disturbances

In this group we have to consider those cases in which so-called "ovarian" pain is complained of although no definite pathological lesion can be demonstrated in the ovary.

Exactly thirty years ago, at the Annual Meeting of the British Medical Association at Oxford, the problem of so-called "ovarian" pain was discussed, and the discussion was dominated by the wise scepticism of the late Dr. Herman. You may possibly agree that a similar attitude of mind is right and proper to-day when assessing the value of certain new surgical procedures introduced for the relief of this troublesome symptom.

We have first to consider whether pelvic pain can be produced by follicle and corpus luteum formation, or by ovulation. As regards actual ovulation, it is quite possible that a certain amount of peritoneal pain may occur if blood escapes in quantity from the ruptured follicle.

Visceral pain is produced by tension within the organ affected, and it might be expected that the periodic distension which the ovary has to undergo during reproductive life would as regularly produce pain of that type. Nature, however, has saved womanhood from this misfortune by making the ovary practically insensitive to gradually increasing tension, and therefore it can be said that the follicular cycle is painless, or at the most attended with but slight pelvic discomfort in normal individuals. We must remember, however, that although the uterine contractions during menstruation are also practically painless, they are in some women quite otherwise, and produce the well-known "spasmodic" type of dysmenorrhoea. May not the process of follicle ripening behave similarly and produce ovarian dysmenorrhoea? In both uterine and ovarian cases we may (*a*) deny that the pain exists, as may be the case in certain hysterical subjects, (*b*) assume that the threshold for pain has been so lowered, as in neurasthenia, that the normal discomfort becomes a severe pain, or (*c*) attribute the pain to local disease.

In the case of the ovary the two local conditions which are said to produce pain are cirrhosis and sclero-cystic disease, but Herman[2] would have none of them, and in opening the discussion already referred to said:

> "It is stated that cirrhosis is the final stage of sclero-cystic disease, but those who say it have adduced no evidence that this is so. Sclero-cystic disease is often present without pain. I find no criteria by which a sclero-cystic ovary which caused pain can be distinguished from one that did not. I find no criteria by which cirrhosis of the ovary can be distinguished from the natural shrinking due to age which is not painful nor by which a shrunken ovary which caused pain can be distinguished from one that did not."

And he concluded with these words:

> "In brief, I know of no morbid change in a freely movable ovary that causes chronic pain. The so-called 'chronic ovarian pain' is either a reflected pain due to neurasthenia or is a manifestation of hysteria. It is not curable either by surgical treatment of the ovaries or by their removal."

Lhermitte and Dupont,[3] on the other hand, are convinced that ovarian dysmenorrhoea exists, and give as its criteria premenstrual pain located in one or other side of the abdomen and radiating to the inner side of the corresponding thigh, with distant manifestations such as gastric disturbances and headaches. They have found the ovaries to be sclero-cystic in patients complaining of severe ovarian pain, and have been able to demonstrate to their satisfaction various changes in the sympathetic nerve fibres similar to those found when a nerve is caught in a cicatrix.

I have given you two extreme views, and as usually happens the truth will probably be found to lie somewhere between them. There can be no doubt that a certain number of cystic ovaries do produce pain, but it is equally certain that a much larger number do not.

My own view with regard to these functional cases is that a woman with a lowered threshold for pain may genuinely complain of ovarian pain, and that this is produced by pressure upon the sympathetic nerve endings as a result of congestion, increased formation of scar tissue, or cyst formation.

Treatment of Functional Disturbances

Treatment in the first instance should aim at raising the tone of the patient's nervous system by ensuring physical, mental, and emotional rest. If there is no improvement after a thorough trial of these measures the pros and cons of surgical treatment may have to be considered. Conservative measures, such as puncture of the cysts or resection of portions of the ovaries, have been uniformly unsuccessful, and need not be further discussed. Removal of the ovaries is much too drastic a procedure, at any rate in younger women, and, in any case, the resulting menopausal disturbances will place a further strain on the already weakened nervous system.

During the last ten years operations upon the sympathetic nervous system have come into prominence in surgical literature, and, as was to be expected, have been employed in the treatment of various functional disturbances of the female genital organs. Excision of the so-called "presacral" nerve has been extensively employed in cases of uterine dysmenorrhoea, as well as for a variety of other conditions, but is not applicable to cases in which the pain is definitely ovarian. Cotte, whose work on presacral sympathectomy is so well known, has tried to cure some of these cases by periarterial sympathectomy of the ovarian artery in the infundibulo-pelvic ligament, but with indifferent success.

More recently Lhermitte and Dupont[3] have published two series of cases in which they excised the ovarian nerves in the hilum of the ovary, and they claim good results, not only in the relief of ovarian pain, but also of those remote manifestations of disturbed ovarian function. Their results, however, are somewhat vitiated by the fact that in most cases other surgical procedures, such as removal of the appendix and hysteropexy, were carried out at the same time.

The operation, however, appears to be fairly easy, reasonably safe, and not harmful to ovulation, so it may be worth trying in those cases in which surgical intervention is considered necessary.

I have already referred to the possibility that the uncomplicated cystic ovary may be the result of endocrine disturbance, and if this be so it is quite likely that organotherapy, when it becomes a more exact science, will prove to be the best method of treatment for cases belonging to this group.

Mechanical Disturbances

The commonest mechanical disturbance of the ovary is prolapse, generally beneath a retroverted uterus, and as a result the ovary becomes more sensitive from congestion or pressure. In the normal individual discomfort or slight pain may be experienced on coitus or on defaecation, but in one who is neurasthenic the pain may be constant, severe, and debilitating.

Varicocele of the broad ligament is said to be frequently associated with ovarian prolapse, but its presence is

difficult to diagnose and its clinical importance somewhat doubtful.

A more serious occurrence is torsion of the ovarian pedicle, but this rarely occurs unless a cyst is present in the ovary. Sudden pain is the principal symptom, and this is partly due to increased tension within the ovary and partly to irritation of the parietal peritoneum by the damaged cyst wall.

Inflammatory Disturbances

Inflammation of the ovary is of frequent occurrence, and usually follows a salpingitis, the infection reaching the surface of the ovary and causing it to become adherent to neighbouring structures. The disturbance of function resulting from these adhesions may lead to cyst formation in the ovary. Infection may occasionally come by the blood stream, as in severe streptococcal infections or some of the acute fevers.

The inflamed ovary is an undoubted cause of pelvic pain, but as it is always associated with pelvic peritonitis, and in chronic cases with adhesions, it is the irritation of, or dragging on, the sensitive parietal peritoneum which is mainly responsible.

So-called "chronic ovarian pain" is frequently diagnosed as "ovaritis," but needless to say there is no pathological foundation for this diagnosis unless the ovary is adherent. The same criterion should apply in the case of the small cystic ovary, the significance of which has already been discussed.

Neoplasms

As a general rule ovarian tumours are practically painless unless torsion, degeneration, or infection occurs, which shows that the ovary is not sensitive to gradual distension.

Endometrioma, however, is an exception, and does, in the majority of cases, produce severe pelvic pain. These tumours are almost invariably adherent, and the pain is partly due to stretching of the ovary by effused menstrual blood and partly to dragging on the sensitive parietal peritoneum and nerves in the broad ligaments.

References

[1] Clare, T. C.: "The Keloid Ovary," *British Medical Journal*, 1931, i, 527.
[2] Herman, G. Ernest: "Discussion on the So-called 'Ovarian' Pain: Its Causes and Treatment," ibid., 1904, ii, 1055.
[3] Lhermitte, J., and Dupont, R.: "De l'Enervation de l'Ovaire," *Gynécol. et Obstét.*, 1927, xv, 161, and 1929, xx, 582.

The annual dinner of the British Serbian Units Branch of the British Legion was held in London at the Lysbeth Hall on September 27th. Lieut.-Colonel A. E. Kidd took the chair, and those present numbered 156, including a large party of Yugoslav ex-service men who were in London for the Federation Interalliée des Anciens Combatants. After dinner the healths of King George and the King of Yugoslavia were drunk, and were followed respectively by the National Anthem and the Yugoslav National Hymn. Colonel P. H. Mitchiner then proposed the toast of "The Guests," and Lieut.-Colonel Lioubomir Stephanovitch and Major Fetherston-Godley, chairman of the British Legion, replied. The Mitchiner silver bell and spoon for marksmanship was presented to Mr. Surtees Shill. The toast of "The Branch and its President" was proposed by His Excellency the Yugoslav Minister, and Colonel Kidd replied. All the speakers stressed the point that of the many branches of the British Legion this Serbian Branch was of particular importance owing to its international significance for Europe. The dinner was followed by dancing, during which the kolo, the Serbian national dance, was performed with much spirit by British and Yugoslavs. Among the principal guests besides those mentioned were Sir James Berry, Madame Agathonovitch, Lady Ralph Paget, Sir James and Lady Purves-Stewart, General Mihaiolovitch, and Colonel Blackham.

OVARIAN CONDITIONS AS CAUSES OF PELVIC PAIN*

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This subject is one which bristles with difficulties and gives rise to much difference of opinion among gynaecologists. It is very controversial, and one's attitude towards its many problems is bound to evoke criticism. In perusing the literature of an older generation one is struck by the ready tendency to blame the ovaries for various vague pelvic pains, and to practise their removal as a means of cure. The frequent failure to relieve and the awful aftermath of the surgical menopause in young women caused a swing of the pendulum to present-day conservatism.

I propose to approach the subject from a purely clinical standpoint, and to consider the ovarian conditions which in my opinion do give rise to pain, mentioning in passing a few interesting cases, and then to discuss the best means of treatment.

It is essential, in the first instance, to accept the fact that it is necessary to find physical signs in the ovary or its neighbourhood before blaming it as a cause of pain, and that in the absence of physical signs it is extremely foolish to adopt any but the most conservative treatment. I, for my part, have experienced the post-operative annoyance of the patient whom I have opened only to find a normal pelvis. Neurasthenic women with ovarian pain are many, and it is much better to place them in the safe hands of a physician.

Ovaries which are the seat of chronic infection, cases of chronic salpingo-oöphoritis, and pelvic adhesions are constantly accompanied by pelvic pain. The burial of the ovary and the consequent difficulty of ovulation may help to produce this, but the drag of peritoneal adhesions also plays a part. The treatment lies in clearing up the pelvis, returning the organs to their normal position as well as possible, and removing what is beyond repair. Adhesions are liable to re-form, but one may count on some amelioration of symptoms.

Intermenstrual pain or "Mittelschmerz" may be considered here. I have seen two undoubted examples of this condition. I opened the abdomen and found enlarged, hard, white ovaries with thickened cortex and very few scars. My treatment consisted in shaving off portions of cortex and making criss-cross incisions. It was all I could think of doing at the time. The result, needless to say, was completely disappointing. When presacral nerve avulsion came into fashion I considered its possibilities in such cases, but fortunately realized in time that the presacral nerve has very little to do with innervation of the ovaries. The ovarian nerve supply derived from the aortic plexus comes down in the ovarian plexus and is delivered through the infundibulo-pelvic ligament and hilum. It is possible that division of the ovarian plexus in the infundibulo-pelvic ligament might relieve this condition, and if I met another case I should be inclined to try it; anterior pituitary hormone might also be a help.

Prolapsed and Cystic Ovaries in the Causation of Pelvic Pain

Prolapsed ovaries lying underneath a retroflexed uterus definitely give rise to pain and sometimes cause very severe dyspareunia. Such ovaries are sometimes cystic, and may have formed light adhesions to surrounding

* Read in opening a discussion in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association, Bournemouth, 1934.

peritoneum. They are often congested, and during the premenstrual period they ache and become hypersensitive. A somewhat similar tenderness is produced in cases of varicocele, and here we find a definite referred pain, which is most marked half-way along the line joining the umbilicus to the mid-point between the symphysis pubis and anterior superior spine. This varicocele is an analogous condition to that found in the male which produces a testicular ache. It occurs in the pampiniform plexus, and shows itself as a markedly dilated and varicose condition of the ovarian veins running from the broad ligament through the infundibulo-pelvic ligament. I have noticed it a number of times at operations for chronic retroflexion, and I have seen it relieved by the Gilliam operation, which not only lifts up the uterus but also shortens the broad ligament and so relieves the kink. Pain is also produced in prolapsed ovaries not accompanied by retrodisplacement of the uterus, and this is best relieved by an operation designed to replace the ovary in as nearly normal a position as possible. This can be obtained by stitching a suitable point of the infundibulo-pelvic ligament to the side wall of the pelvis near the interior abdominal ring. One authority reports seventy-six such cases with 88 per cent. of cures.

Endometriomatous growths in the ovaries may cause pain, and ovarian dysmenorrhoea is common in such conditions. These growths tend to come on after the age of 30, and should be suspected in women complaining of dysmenorrhoea and lower abdominal pain starting at this age. Interstitial haemorrhage in the ovary will also produce pain. I have noted these conditions at operation for pelvic pain, but they are not common.

I have little faith in the idea that the small cystic ovary occasions pain, and the so-called cirrhotic ovary is not in my opinion a pathological entity. Adhesions in the region of the infundibulo-pelvic ligament involving or catching up the fibres of the ovarian plexus may result in chronic ovarian pain and dysmenorrhoea. Such a condition has been described by Lupan following removal of appendix ; a complete cure was obtained in his case by division of the plexus in the infundibulo-pelvic ligament. Peritoneal bands or adhesions to the ovary can produce pain ; I had one such case following an appendicectomy when an omental band had caused internal pain in the rectum for a long period. Division of the band gave complete relief. Large tumours of the ovary, whether malignant or benign, do not as a rule give rise to pain unless the pedicle becomes twisted, causing congestion or formation of adhesions.

It is probable that the ovary itself is fairly insensitive, as otherwise the recurrent follicle ripening, with associated increase of tension, would produce pain. We must recognize, however, that at times the ovaries become more sensitive, for example, just before menstruation, or if there is any marked pelvic congestion ; also in cases of repeated unsatisfied sexual stimulation there will develop a hypersensitiveness of the ovary. This is evident by the dyspareunia which sometimes develops in such women.

Apart from organic disease of the ovary we, as gynaecologists, are confronted with three conditions which have been, and will continue to be, dubbed ovarian pain: (*a*) reflected pain, (*b*) neurasthenic pain, and (*c*) hysterical pain. Abnormal conditions of the female genitals affect the lower dorsal and upper lumbar segments of the cord. This causes a hyperaesthesia of the cutaneous areas supplied by these segments, and consequently tenderness and pain on pressure over a fairly wide area situated between the umbilicus and the anterior superior spine. A diagnosis of oöphoritis is often made, although the ovary may be completely free from blame.

In neurasthenia we have a condition in which the resistance of the nervous system is decreased, and consequently the threshold for pain is lowered. This may be produced by anaemia, chronic disease, long-continued suffering, or mental worry. The patient will complain of pain in the region of the ovary where no ovarian pathology exists. Lastly, in cases of hysteria the patient often fixes her attention on her ovaries, though the ovary is absolutely normal.

The lesson to be learnt from these considerations is that we must be extremely careful when a patient comes to us complaining of pain which she has been told is due to her ovaries. If on examination we find definite physical signs of pathology in her genitalia then we can with confidence recommend operative treatment. If we find the uterus and cervix healthy and normal in position, and we are not sure of the condition of the tubes and ovaries with regard to adhesions, possible endometriomata, displacements, etc., then we should explain the position carefully to the patient and advise an examination under an anaesthetic, and at the same time carry out a Rubin's test. This examination should put us in the position of knowing whether it is necessary to open the abdomen or not. It will also be of value from its suggestion effect on the patient.

Finally, if we are certain in our own minds that there is no pathological condition present we must tell the patient so firmly, and assure her that operative treatment will not improve her condition, and that if she has patience and adopts the measures necessary to improve her general health she will gradually get rid of her pain.

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TOTAL THYROIDECTOMY IN THE TREATMENT OF PATIENTS WITH CONGESTIVE HEART FAILURE AND ANGINA PECTORIS

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Any measure which promises to prolong, in fair comfort, the lives of patients with both the congestive and the anginal forms of heart failure, in whom the efficacy of all other forms of treatment has been exhausted, must command serious attention, as, if the promise is fulfilled, the method will have a wide application. It is for this reason that the papers of Blumgart[1] and Levine,[2] and their associates, have excited such great interest. They claim that the removal of the whole thyroid gland in patients without thyrotoxicosis, incapacitated by congestive or anginal heart failure, is not only comparatively safe, but that it so greatly improves the patients' condition that many of them again become capable of work. Blumgart[3] says that the operation has now been performed with gratifying success in over fifty cases.

Rationale

It is established that ordinarily the heart's output of blood per minute varies directly as the rate of metabolism. The more rapid the metabolism the more oxygen do the

tissues use, and the more oxygen-containing blood does the heart have to send them. In hyperthyroidism the heart's output is increased because the metabolic rate is raised; in myxoedema metabolism is slowed and the cardiac output is diminished. In the late stages of congestive heart failure the heart's output of blood per minute is diminished, in spite of the fact that the metabolic rate is normal or even increased, and no doubt this is largely responsible for the symptoms at this stage.

Blumgart's preliminary researches were concerned, not with the volume of blood expelled by the heart per minute, but with the linear velocity of blood flow, and this was done in the present series because the linear velocity is easy to estimate, while the estimation of the volume output presents great technical difficulties in patients with congestive heart failure. Blumgart found that in health the linear velocity of blood flow through the lungs was proportionate to the metabolic rate. In hyperthyroidism the velocity was increased. In heart failure, even in its early stages, it was diminished. In myxoedema the velocity was as low as in heart failure, but there were no circulatory symptoms. Blumgart therefore argued that heart failure is due to the heart being unable to maintain a sufficient volume and velocity of blood flow for the needs of the tissues. The damaged heart, on ordinary medical treatment, is pumping the greatest volume of blood at the greatest speed of which it is capable, but the needs of the tissues are unsatisfied. The only course left is to reduce the metabolic needs (by thyroidectomy) to a level at which they can be satisfied by the diminished output of which the heart is capable.

Two further arguments support this. First, the most severe heart failure in cases of hyperthyroidism is usually completely relieved by subtotal thyroidectomy. Most observers agree that thyrotoxic heart failure is not due to organic damage to the heart, but partly to the occurrence of auricular fibrillation and partly to the increased metabolism making excessive demands on the heart. Again, patients with myxoedema rarely have circulatory symptoms, but sometimes, when thyroid extract is given, anginal attacks or congestive failure occurs, and the attempt to cure the myxoedema has to be abandoned.

Levine and Blumgart's Observations

If the argument is correct, improvement might be expected in angina pectoris as well as in congestive failure. It is thought that angina is due to the coronary arteries being unable to transmit enough blood for the increased needs of the heart during exercise. Thyroidectomy diminishes the body's oxygen consumption, both at rest and on exertion. The heart's work is thus reduced, and a large blood supply to the heart becomes unnecessary. Levine and Blumgart[4] therefore tried the effect of partial thyroidectomy in a number of cases. They found that, though the symptoms were temporarily relieved, the metabolic rate soon rose again and the symptoms recurred, presumably owing to the regeneration of the fragments of thyroid tissue left behind. They also found that irradiation by *x* rays or radium was useless, as doses which do not damage the other tissues have little effect on the normal thyroid. It was evident that nothing short of total thyroidectomy was likely to succeed, and this was done in another series of cases. They have described in detail[1 2] the results in twenty-two cases, including cases of rheumatic, arteriosclerotic, hypertensive, syphilitic, and pulmonary heart disease, with congestive failure, angina, or both. All were unable to work, and many were bedridden.

The results in the twenty-one cases in which sufficient time had elapsed since the operation, after varying periods up to six months, were as follows:

(*a*) There were two operative deaths.

(*b*) One patient with frequent attacks of cardiac asthma had no more attacks for three weeks after the operation, but then died in his first post-operative attack. Another, with mitral stenosis and auricular fibrillation, was not improved, and died after a subsequent operation for pericardial adhesions. A third, with syphilitic aortic incompetence, angina, and congestive failure, was not improved, and died a few days after discharge.

(*c*) Two patients with mitral stenosis, auricular fibrillation, and congestive failure (one of them with a complicating chronic nephritis) were not improved.

(*d*) Three patients with angina and congestive failure were relieved of their angina. The congestive symptoms were improved greatly in one, slightly in another, and not at all in the third. All three were much more comfortable than before the operation.

(*e*) One patient with only angina was completely relieved.

(*f*) Ten patients with congestive failure were much improved. Patients previously orthopnoeic and bed-ridden were able to lie flat, and to be up and about without distress, and some were able to return to light work.

(*g*) Signs of slight hypothyroidism often developed, and small doses of thyroid extract had to be given continuously to five patients, and for a short period to two others. The mental slowness and heaviness of myxoedema rarely appeared, and most of the patients said they were mentally quicker than before the operation, no doubt owing to the improved cerebral circulation. Slight signs of tetany appeared for a few days in some cases, but were easily controlled by calcium and vitamin D.

Present Series

Such successful results in patients hopelessly ill indicated that the method was worthy of further trial, and this paper gives the initial results in a small series of six cases. They had all been observed for months or years by one of us in the out-patient department, Queen's Hospital, Birmingham. They were all incapacitated by their cardiac symptoms, which were slowly progressing in spite of treatment, including, in four cases, one or more periods of in-patient treatment. So far as could be forecast, they had not more than a few months or years of increasingly miserable existence before them. Cases in which the cardiac lesions were rapidly progressing—for example, cases of active rheumatic or syphilitic disease—were excluded. None had clinical evidence of hyperthyroidism, though in some, as is common in heart failure, the basal metabolic rate was raised.

Preliminary Investigations.—In order to diminish subjective errors a number of objective measurements were made before operation for comparison with the post-operative findings, and although the changes in the patients' symptoms were often greater than indicated by the measurements, it may be of interest to record the results in the accompanying table. Radiographs of the heart and electrocardiograms were taken. The venous blood pressure was measured by the direct method, since a rise in the venous blood pressure is a fairly early sign of congestive failure, and a fall usually occurs with improvement. The velocity of the circulation through the lungs was measured by the cyanide method of Weiss and Robb.[3]

About 7 minims of a 2 per cent. solution of sodium cyanide is injected into a vein at the elbow; this travels to the heart, through the lungs (which takes most of the time), and out into the systemic arteries. When it reaches the carotid sinus, at the bifurcation of the common carotid artery, it suddenly stimulates a great transient increase in the rate and depth of respiration. The time between the injection and the first deep inspiration is taken with a stop-watch.

The vital capacity of the lungs was measured by means of a spirometer. It is thought that a vital capacity diminished by the encroachment of distended pulmonary capillaries on the air space, or by the congested capillaries making the lung more rigid, is more closely related

Table Showing the Results of Special Examinations Before and After Operation

Case	Time in Relation to Operation	Venous Blood Pressure in cm. Saline	Pulmonary Circulation Time in Seconds	Vital Capacity in c.cm.	Basal Metabolic Rate (per cent.)	X-Ray Findings	Electrocardiogram
I	Before	7.0 to 12.5	10.5 to 19.6	1,700 to 2,300	− 2 to 0	Heart enlarged to left	Left ventricular preponderance. Depressed S–T I and II
	After	8.0 to 10.0	10.0 to 17.6	2,000 to 2,300	− 8	Increase in enlargement to left and right	Deeply inverted T I
II	Before	9.3	13.2	2,300	+ 4 to + 15	Heart enlarged to left	Left ventricular preponderance. Diphasic T I and II
	After	0.5 to 3.2	18.6 to 19.6	2,300	− 9	Unchanged	Unchanged
III	Before	17.0 to 22 5	25 to 26	2,300	+ 12	General enlargement of heart	Bundle-branch block of the unusual variety
	After	19.0 to 21.0	29 to 30	2,400	− 5	Slight increase in enlargement	Unchanged
IV	Before	6.0 to 15.2	12.2 to 16.4	1,900	+ 16 to + 20	General enlargement of the heart	Left ventricular preponderance. Diphasic T I and II
	After	8.0	16.3 to 18.0	2,100	0 to + 2	Unchanged	Unchanged
V	Before	2.2 to 3.2	21.6	2,300	+ 19 to + 20	Heart normal in size and shape	Intraventricular block
	After	2.5 to 5.0	21.6	2,500	− 7	Slightly enlarged	Diminished voltage of QRS waves and flattened T waves
VI	Before	4.0 to 10.2	10.2 to 15.4	1,400	+ 28 to + 31	Heart enlarged to left	Left ventricular preponderance. Negative T I
	After	6.0	15.6	1,700	+ 21	Unchanged	Unchanged

to the occurrence of cardiac dyspnoea than is any other factor.

These tests have been done repeatedly on all the patients during the time they were being watched in the out-patient department. In addition, photographs were taken so that any subsequent change in their appearance due to myxoedema might be more readily appreciated. Finally, their exercise tolerance was carefully estimated. Five patients walked up and down the ward until compelled to stop by pain or dyspnoea, and the number of times they walked the length of the ward and the time taken to do so were observed. The sixth patient was able to walk slowly on the flat almost indefinitely, and she was made to walk up a flight of stairs until compelled to stop. In each case the test was repeated several times on different days, and the best result taken for comparison with the post-operative findings.

The Anaesthetic.—Local anaesthesia was not used for several reasons. We thought it desirable to minimize mental stress in patients subject to angina pectoris. The added adrenaline is also liable to bring on anginal attacks. It was thought possible that a cervical block might paralyse the phrenics, with disastrous results in patients already dyspnoeic. Finally, orthopnoeic patients, if conscious, would be unable to lie in the "thyroid position." Avertin-gas-oxygen anaesthesia was ultimately decided upon. Avertin ensures quick induction and avoids pulmonary irritation, but it depresses the circulation and respiration and reduces the blood pressure. Gas and oxygen is non-toxic and non-irritant, and it tends to stimulate the circulation and respiration and to raise the blood pressure, thus counteracting the undesirable effects of the avertin. Glucose was given in large quantities for several days before the operation in order to protect the liver (already damaged by chronic venous congestion) against the toxic action of the avertin. Atropine 1/75 grain was given an hour before the operation. The avertin (0.1 gram per kilo of body weight in 2½ per cent. solution) was given with the patient lying on his left side with his head propped up on pillows, and he remained in that position till narcosis was produced. The patients may, however, be moved to the theatre and placed in the thyroid position on the operating table without undue anxiety. The gas and oxygen was given by Magill's mask and the Clausen harness method. An airway was inserted as soon as possible, and a high percentage of oxygen was necessary in order to maintain a good colour.

The operation must be approached with great circumspection, and the procedure must be delayed if anything occurs which might further handicap the patient temporarily. Berlin's technique[6] was that essentially followed.

The whole thyroid gland, with the pyramidal lobe and any near-by nodules of aberrant thyroid tissue, was removed. The chief dangers are that the recurrent laryngeal nerves may be cut and that the parathyroids may be removed. The recurrent laryngeal nerve is best sought for after the upper pole has been freed, and while the lateral lobe is being drawn towards the mid-line. It is a comfort to see that the nerve is safely left behind, but if a careful search shows that it is not running through the terminal branches of the inferior thyroid artery it can be accepted that it is safe. The total removal of the parathyroids can be avoided by observing the following:[7] (*a*) the parathyroids, unlike aberrant thyroids, are not rounded, but elongated, flattish, and soft; (*b*) they are usually wrapped in a little fat; and (*c*) one or more are usually well away from the thyroid, at least 1 cm. from the lower pole of the gland.

The operation, *pace* those who scoff at the dissecting surgeon, is a *dissection*, to be done deliberately. Haste is more dangerous to the patient than a little extra anaesthesia. After the operation the patient should be kept lying flat until consciousness returns, when he is propped up. Cyanosis should be prevented, while the patient is lying flat, by the use of oxygen.

Records of Six Cases

Case I

History.—Mrs. K. P., aged 49, hypertension, with coronary sclerois and ? occlusion. Angina pectoris and congestive heart failure. Under observation since February, 1931. Since 1928 stiffness of left hip, and much pain in the back. Since 1929 severe headaches and retrosternal pain, spreading down left arm to the wrist on exertion. In March and September, 1932, and February, 1933, complained of attacks resembling coronary occlusions—severe cramp-like epigastric pain, coming on while at rest, spreading to the chest, not relieved by amyl nitrite, lasting several hours. Since the first of the attacks ankles began to swell, she became very dyspnoeic and orthopnoeic, and, though just able to get about, was unable to do her housework. In spite of treatment, including two periods in hospital, she continued to go downhill. In addition to her cardiac symptoms she was troubled at intervals by severe pain in the back, associated with osteoarthritis of the spine.

Examination.—She was of the hypersthenic, plethoric type. The left hip showed great limitation of movement. She was orthopnoeic. The liver was large and tender. There was slight oedema of the ankles. The apex beat, which was forcible and heaving, was just outside the mid-clavicular line. The aortic second sound was very accentuated. The blood

pressure ranged from 220/130 to 290/160. The electrocardiogram showed left ventricular preponderance, and a depressed S-T interval in Leads I and II.

Operation.—Total thyroidectomy (January 10th, 1934). Thyroid of average size and appearance, and normal histologically. Her condition caused no anxiety during or after the operation, though for three days her blood pressure fell to 126/76. There was slight pyrexia for three days, and a little cough for a further few days.

Progress.—Her condition greatly improved for two months after the operation. Before operation she had to be propped up in bed with a bed-rest and three or four pillows, and could only walk five times the length of the ward in two and a half minutes before having to stop because of pain and dyspnoea. After the operation she dispensed with the bed-rest and used only three pillows, and she walked six times the length of the word in two minutes without discomfort, and then stopped only because of the jocular comments of the other patients. After returning home, she found she could walk to hospital and up the stairs to the ward without discomfort, though previously she had to stop many times on her way to hospital. Angina occurred only after excessive exertion, such as walking up three flights of stairs to the laboratory immediately after walking to hospital. Her dyspnoea was also much less, and she was able to use only two pillows without a bed-rest. Her oedema has disappeared. During the next three months, however, she had a return of the pain in the back due to arthritis of the dorsal spine, and her activities were much reduced by this. Her dyspnoea is now greater than in the two months after her operation, though less than before the operation, and she has had no angina at all for the last three months. She feels that but for the pain in the back she is better than she has been for years. She has developed slight hypothyroidism, with puffiness of the eyelids and roughening of the skin, but there is no perceptible slowing of the mental processes, and she herself thinks she is brighter and mentally clearer than before.

Case II

History and Examination.—Mr. H. P., aged 53. Hypertension, ? coronary disease, and angina pectoris. Under observation since August, 1933. Severe anginal pain, stopping him after walking thirty yards slowly on the level. Unable to do even light work. Unimproved by treatment, including a period in hospital, and prophylactic nitroglycerin. Apex beat one inch outside mid-clavicular line. Accentuated aortic second sound. Thickened arteries. Blood pressure 164/106 to 206/118. Electrocardiogram showed left ventricular preponderance, diphasic T I and II.

Operation.—Total thyroidectomy February 19th, 1934. Gland of average size and appearance, and normal histologically. His condition during and after the operation caused no anxiety, but he developed painful red swellings of the joints of the hands after operation, which troubled him for several weeks. (He had been subject to " rheumatism " for years.)

Progress.—Before operation he developed some pain after walking four times the length of the ward, and was forced to stop after walking eight times in three and a half minutes. After operation he walked ten times the length of the ward in four and a half minutes without pain, though he was slightly dyspnoeic. Since leaving hospital he finds he can walk much further on the flat without pain, but he still gets pain on walking uphill. No evidence of hypothyroidism has developed, though he has put on a little weight.

Case III

History and Examination.—Mrs. G. W., aged 48. Hypertension, ? coronary disease, congestive failure, and angina. Under observation since November, 1932. Since 1929 increasing dyspnoea on exertion. Unable to walk up flight of eleven steps at home without resting: for same period angina on exertion. Oedema of ankle since April, 1932, and swollen abdomen (ascites) since October, 1932. The ascites disappeared under treatment with mercurial diuretics in hospital, but the other symptoms became slowly more marked. She was unable to do any housework. Marked cyanosis and orthopnoea (bolster and three pillows). Marked oedema of legs, and, when first seen, great ascites, recurring slightly from time to time while under observation. Large tender liver. Apex beat in sixth space two and a half inches outside mid-clavicular line, and dullness one inch to the right of the sternum. Loud systolic murmur in tricuspid area. Pulmonary and aortic second sounds much accentuated. Blood pressure 220/138 to 236/142. Electrocardiogram showed bundle-branch block of the unusual type.

Operation.—Total thyroidectomy, March 28th, 1934. Gland of average size and appearance, except that there was a long pyramidal lobe which was traced to the region of the hyoid, where it tore away. Histologically gland showed some fibrosis, and a parathyroid was seen in its substance. Her condition caused no anxiety during or after the operation.

Progress.—Two weeks after operation she dispensed with one of her pillows, and then, after returning home, with another. Before operation she was stopped by pain and dyspnoea after walking four times the length of the ward in two and a half minutes, and at home had to rest while going up a flight of eleven steps. Two weeks after operation she stopped because of slight dyspnoea, without pain, after walking eight times the length of the ward in three and three-quarter minutes, and she walked twice up and down a flight of twenty-seven steps with no discomfort at all. Since returning home she walks to hospital and up the stairs to the ward without discomfort, whereas previously she had to rest several times on her way to hospital. She has not yet begun to do any housework, though she feels well enough to do so. Her cyanosis is less, she has oedema only of the right leg, which has thrombosed varicose veins, and the liver is not tender, though still large. Her blood pressure is 196/120. There is no evidence of hypothyroidism.

Case IV

History and Examination.—Mrs. G. D., aged 54. Hypertension, coronary disease, angina, and congestive failure. Under observation since September, 1932. Headaches and increasing dyspnoea since 1929. Angina on effort since March, 1933. Occasional attacks of mild cardiac asthma, lasting up to two hours, since April, 1933. For six months before admission unable to do housework because of dyspnoea and pain. Stout, plethoric, and orthopnoeic. Large tender liver. Apex beat in fifth space in mid-axillary line. Dullness one inch to right of sternum. Blood pressure 236/138 to 270/150. Electrocardiogram showed left ventricular preponderance, diphasic T II and III.

Operation and Progress.—Total thyroidectomy April 11th, 1934. Gland of average size and appearance, and histologically normal. Her condition caused no anxiety during or after the operation. Before operation, stopped because of pain and dyspnoea after walking six times length of ward in six minutes. Twelve days after operation she walked fourteen times the length of the ward in five minutes, and then stopped only because her legs were tired, not because of pain or dyspnoea. After resting fifteen minutes she walked twice up and down a flight of twenty-seven steps without distress. Improvement continued after returning home, and she is now doing all her housework except the heavy washing. The only sign of hypothyroidism is slight roughening of the skin.

Case V

History and Examination.—Mr. W. N., aged 54. ? old coronary occlusion, angina. Under observation since January 11th, 1934. In October, 1933, while at rest, had severe precordial pain radiating down both arms lasting several hours (probably due to coronary occlusion). Since then anginal pain on slight exertion. Unable to do even light work. Emphysematous chest. Thickening of arteries. Heart of normal size. No murmurs. Blood pressure 152/98. Electrocardiogram showed intraventricular block.

Operation and Progress.—Total thyroidectomy April 11th, 1934. Gland of normal size and appearance, and normal histologically. Somewhat collapsed immediately after the operation, but had recovered the same evening, and after this was troubled only by a little cough, apart from local discomfort. Before operation had to stop, because of pain and dyspnoea, after walking six times length of ward in two and a quarter minutes. The pain was not relieved by prophylactic nitroglycerin, and was no better after three weeks in bed. Several attacks of pain while in bed. Only slight improve-

ment after operation, as the patient still got occasional slight attacks while at rest, and was forced by pain to stop after walking ten times length of ward in three and a quarter minutes. Before operation he had to stop at least six times on his way to hospital. Now has to stop only once, but is still incapable of work. No obvious hypothyroidism.

CASE VI

History and Examination.—Mrs. F. R., aged 58. Hypertension, congestive failure, cardiac asthma, and angina pectoris. Under observation since September, 1933. Since February, 1932, attacks of paroxysmal nocturnal dyspnoea, with precordial pain radiating down left arm. At end of attack brings up about half a pint of frothy sputum. Since onset, increasing dyspnoea and oppression in chest on exertion. Unable to do housework for six months before admission. Thin, nervous woman. Apex beat in sixth space one inch outside mid-clavicular line. Accentuated aortic second sound. Marked arteriosclerosis. Blood pressure 208/110 to 246/140. Electrocardiogram showed left ventricular preponderance, inverted T I.

Operation and Progress.—Total thyroidectomy April 21st, 1934. Gland of average size and appearance, except for cyst 1 cm. in diameter in right lower pole. Normal histologically. Her condition caused no anxiety during or after operation. Before operation was forced to stop after walking twice up a flight of twenty-seven stairs in five minutes. After operation walked three times up and down same stairs in four and three-quarter minutes without distress. She was able to get about much better after discharge, but six weeks after operation she suddenly became unconscious, was paralysed down the right side, and died the same day, after readmission to hospital. Post-mortem revealed a greatly enlarged heart, due to hypertrophy of the left ventricle. There was very little coronary atheroma. A large haemorrhage into the left cerebral hemisphere had burst into the lateral ventricle.

Discussion

It is striking that all six of these seriously ill patients stood the operation so well. One was a little collapsed for a few hours, but the others gave no anxiety. So far only two patients show signs of slight hypothyroidism, in spite of the removal of the whole thyroid gland. Blumgart and Levine also found that the signs of hypothyroidism by no means always appeared. Kocher in 1883 said that myxoedema almost always followed total thyroidectomy, but the collective investigation on myxoedema by the Clinical Society of London in 1888[8] showed that in many cases myxoedema did not occur. The committee concluded that "the apparent immunity in many cases was probably due to the presence and subsequent development of accessory thyroid glands, or to accidentally incomplete removal, or to the insufficiently long observation of the patients after the operation." All the patients in the present series were middle-aged, and it is possible that the thyroid in middle and old age is less active and less essential than in youth. It is striking that one of the patients displaying the obvious physical signs of hypothyroidism does not show the characteristic mental slowness. This is probably due to the improvement in the cerebral circulation relative to the needs of the brain.

Some improvement in the circulatory symptoms occurred in all cases. In Cases II and V it was slight, in Cases I and VI it was moderate, and in Cases III and IV fairly marked. Patient VI died of cerebral haemorrhage six weeks after the operation; it seems improbable that her death was hastened by it. No patient is free from symptoms, but all were capable of more exertion than before operation, and one has already taken up her housework again, after being unable to do it for more than six months. Some improvement occurred in both the congestive and the anginal symptoms, though previously the patients were going steadily downhill in spite of all treatment. It seems fair to attribute the improvement to the operation and not to rest in bed in hospital, because all the patients were kept in bed for two or more weeks before the operation without improvement, while four had had one or more previous periods in hospital without benefit. Moreover, the patient was kept in bed for only five to twelve days after the operation.

It cannot yet be foretold how long the improvement will last. As the underlying cardiovascular disease is slowly progressive, it can only be a matter of time before the capacity of the heart is again lowered below the demands of the body, lowered though these are by thyroidectomy, so that sooner or later the symptoms will no doubt recur. The patients are being kept under observation, and it is hoped to make a further report on their condition in about twelve months' time.

The cause of the improvement is not yet entirely beyond doubt. It seems very probable that the main factor is the reduced metabolism. Although the heart can drive on no more blood than before, the small volume it can drive on is now sufficient for the diminished needs of the body. This statement needs modification in two particulars. First, if the needs of the body are reduced so much that the heart, instead of being "all out," is able to reduce its work without the tissues suffering, the heart is rested, and recovers some of its lost reserves, so that it becomes able, when necessary, to expel more blood than before the operation. Secondly, in myxoedema the heart is usually enlarged and less efficient than normal, though the inefficiency is masked by the diminished needs of the tissues. There are also characteristic electrocardiographic changes. Both the enlargement and the electrocardiographic changes usually recede under treatment, showing that they are due to the myxoedema, and not independent changes. In three of the present series the heart enlarged, and in two electrocardiographic changes occurred, after the operation (see table). Any impairment of the heart's efficiency due to myxoedematous changes would tend to counteract the benefits of the reduced metabolism.

Levine pointed out that improvement sometimes occurred at a time when there was no change in the metabolic rate, though the basal metabolic rate usually fell, with further improvement later. This was also true of some of the present series. But too much stress should not be placed on basal metabolic rate readings taken shortly after operation. Possibly apprehension may be responsible for unduly high readings at this stage. Levine suggests that some of the improvement, especially in cases with angina, is due not to the diminished work of the heart but to humoral changes, particularly an alteration of the reaction of the heart to adrenaline. This suggestion is based on his previous work,[9] in which he stated that in patients subject to angina an attack can always be precipitated by an injection of adrenaline. He suggests that in the absence of thyroid secretion this perhaps may not occur. This seems to be purely speculative, and, moreover, other observers do not agree that angina can always be precipitated by a dose of adrenaline, so that there is no need to consider this hypothesis further at present.

Though the diminished need of the tissues for oxygen-containing blood after thyroidectomy is no doubt the chief factor in the improvement, Blumgart's observations on the velocity of the circulation must not be held to prove this. The linear velocity of blood flow depends not only on the output of blood by the heart per minute, but also on the cross-sectional area of the vessels through which the blood flows. If the volume of blood expelled by the heart per minute and the cross-sectional area of the vessels are both halved, the linear velocity of blood flow remains unaltered. In early congestive heart failure the velocity of blood flow through the lungs may be much slowed, though the output of the heart per minute is practically unaltered. This is

because the dilatation of the pulmonary capillaries increases the cross-sectional area of the vessels through which the linear velocity of flow is measured. The linear velocity of blood flow can therefore be taken as an index of the work done by the heart only if it can be shown that the cross-sectional area of the vessels remains unaltered. In the cases under consideration there is no absolute proof of this, though there is indirect evidence pointing in this direction. The vital capacity of the lungs gives an indication of the cross-sectional area of the pulmonary vessels, since if these are dilated the vital capacity is diminished as the air space is encroached upon. In Blumgart's cases, as in our own, the vital capacity was unaltered or slightly increased, showing that the pulmonary vessels were, if anything, less dilated than before. The velocity of circulation through the lungs after the operation is either unaltered or slowed (see table). These two facts together—namely, a lessened linear velocity through narrowed vessels—show that the volume of blood flowing through the lungs per minute is diminished. Since the output of the left ventricle must equal that of the right, this indicates that the heart as a whole is doing less work.

Summary and Conclusions

The whole thyroid gland has been removed in six patients without hyperthyroidism, showing incapacitating congestive heart failure, angina pectoris, or both, in whom all previous treatment had been ineffectual. There were no operative deaths, though one patient with a very high blood pressure died of cerebral haemorrhage six weeks after the operation. All six patients showed slight to fairly marked improvement in their circulatory symptoms after the operation, and were capable of more exertion. One of them, who had done no housework for over six months, is now doing all her housework except the heavy washing. The cases are all too recent for the permanent effects to be judged, but it is hoped to report on their condition again in about twelve months' time. Slight signs of hypothyroidism appeared in two cases only. The rationale of this method of treatment is discussed.

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Juliette Harburger (*Thèse de Paris*, 1934, No. 284) states that during the last two years (1932–3) observations at the Hôpital Laennec, Paris, have shown that alcoholic cirrhosis is three times as frequent in women as in men, and that the disease is more fatal in women (0.73 per cent.) than in men (0.09 per cent.). The malignant hypertrophic forms of cirrhosis are those most frequently found in women, as is shown by the fact that out of twenty-three cases thirteen were hypertrophic and ten atrophic. During the same period 1932–3 alcoholic neuritis showed the same frequency, relative proportion, and characters as in the case of alcoholic cirrhosis, there being four female cases to one male. The inversion of the ordinary frequency of alcoholic symptoms in the two sexes appears to be due both to social conditions, such as the employment of women in factories, and the economic crisis, and to anatomo-physiological conditions, the women representing a new and therefore particularly susceptible soil for alcoholic intoxication.

TRAUMATIC RUPTURE OF THE LUNGS WITHOUT SIGNS OF TRAUMA IN THE CHEST WALL

BY

W. E. COOKE, M.D., F.R.C.P., D.P.H.

As the title suggests, we are concerned in this note with traumatic rupture of the healthy lung. Pathological perforations due to tuberculosis, abscess, emphysema, empyema, neoplasm, etc., and pulmonary laceration by fractured ribs, stabs, and projectiles have been excluded in the cases mentioned, either by necropsy or by the circumstances, age, and history rendering the presence of any of the above conditions extremely improbable. From time to time during the past century these cases have been published. The increase in the number of deaths by violence will, no doubt, bring more to notice, and further emphasize the fact that extensive damage to internal organs—rupture of the lungs, liver, kidneys, spleen, bladder, and intestines, and, for example, extensive retroperitoneal haemorrhage—frequently occurs without any external evidence of trauma. Injury to the abdominal viscera would appear to be due to direct violence to the organs through the flaccid abdominal wall, as in the case of the passing of a cart wheel, or the wheel of any heavy vehicle, over the abdomen, or by blows or falls in which the abdomen is forced on to a projecting ledge.

Rupture of the lungs cannot be so simply explained. Traumatic rupture of the lungs without injury to the chest wall may be of three types, any of which may occur alone, or the lungs may present all types in varying degree.

Pneumothorax Type

The first condition is simple rupture of a few alveoli, leading to pneumothorax without evidence, such as haemoptysis or haemothorax, to suggest extensive damage to the parenchyma. These cases are not very infrequent, but as the vast majority recover completely they are not published.

Giovanni,[1] in 1861, recorded the case of a boy, aged 15, over whose chest the wheel of a carriage passed. He died on the tenth day. At necropsy no fracture of the ribs or sternum could be detected, but air escaped on opening the thorax. Another instance is the following. A healthy young woman, aged 19, slipped from the top of the household step-ladder, and felt something unusual in her right side. On *x*-ray examination a pneumothorax was found with complete collapse of the right lung. No fracture of the ribs or other injury to the chest wall could be found. She made an uneventful recovery. No evidence of any lung disease could be found at the time, and radiological examinations at intervals during the subsequent eighteen months failed to detect any signs of tuberculosis.

Parenchymal Rupture

In the second type rupture of the lung parenchyma occurs without laceration of the visceral pleura. On section the lungs present numerous haemorrhages, varying in size from a pea to a walnut, or larger. The haemorrhages completely disintegrate the lung tissue, giving the appearance of cavities filled with blood. In addition, there are ecchymoses throughout the lung fields. Neither pneumothorax nor haemothorax is present, but haemoptysis is constant, and may be the only sign.

Moore[2] published an example. A healthy young man fell off a horse and sprained the left wrist and bruised the left elbow. No bruise of the chest wall and no fracture of the ribs could be found. He had severe haemoptysis and died three days later. The following is another instance. In 1934 a healthy man, aged 42 years, received a blow on the chin and fell to the ground. He died in a few moments from haemorrhage into the fourth ventricle. No marks of violence

were found, but at necropsy the upper lobe of the left lung presented several haemorrhages in its substance, the largest being the size of a walnut.

Combined Type

The third type is a combination of the foregoing conditions much exaggerated. The visceral pleura is torn, there is haemopneumothorax, and there are extensive haemorrhages into the lung substance.

On May 7th, 1934, a girl, aged 15, collided whilst cycling with an on-coming motor-car, and was thrown into the air. She sustained fractures of the right femur, right humerus, and right clavicle. The ribs and sternum were intact. No bruises could be found on the chest, nor was there any effusion of blood into the muscles of the thorax. The ribs, as one expects in a girl of this age, were very resilient. There were two and a half pints of blood in the right pleural cavity, and the right lung was collapsed. There was a laceration, extending deeply into the lung tissue, six inches in length, on the posterior surface of the right lower lobe, and another two inches in length on the internal surface. The right upper lobe presented a tear, three inches in length, on its anterior surface. In front of this laceration a piece of the upper lobe, two square inches in extent, was almost completely severed. Haemorrhages of various sizes, with disruption of the lung tissue, were present, and numerous ecchymoses mottled the lung fields. The left lung presented similar haemorrhages and ecchymoses, but there was no rupture of the pleura.

Smith[3] mentions a case of a boy, aged 8 years, who, in 1896, was run over by a heavy cart. There was not the slightest trace of abrasion or bruising of the skin of the chest, nor behind the ribs and sternum, but the upper lobe of the right lung had been cut completely off from the root of the lung, and was floating freely in a pleura full of blood.

Similar cases are recorded by Le Conte,[4] Wideroe,[5] Kerr,[6] MacTaggart,[7] and Spiers.[8]

Discussion

Injuries of the type described above must occur frequently, but rupture of the lung is comparatively rare. A convincing hypothesis on the physics of traumatic rupture of the lung is difficult to propound, especially when the characteristics of the normal lung are considered. The recorded cases are almost all in young persons. With the exception of the case mentioned above, MacTaggart's case seems to be the oldest—a man, aged 35, fell from a scaffold thirty-five feet high; his lungs were ruptured, but no ribs were fractured. This suggests that resilience of the ribs may be an important factor. But however resilient the ribs it is unthinkable that direct violence without gross damage to them could rupture the tough, spongy, non-resistant lung unless some other factor or factors were present.

It is reasonable to suppose the other factors to be an expanded lung and a glottis closed at the moment of impact. Given these three conditions—resilient ribs, expanded lungs, and a closed glottis—the effect of sudden violence might be likened to the bursting of a blown-up paper bag between the hands. Both lungs are affected, but greater damage might be expected on the side receiving the greater force.

The absence of bruising in some cases of internal injury and in violence to other parts of the body is a constant source of surprise to the legal mind and to juries. The factors governing the production of bruises are not fully understood, and all that can be said is that violence, and extreme violence, is frequently unaccompanied by bruising.

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MORBIDITY IN A FAMILY TREE

BY

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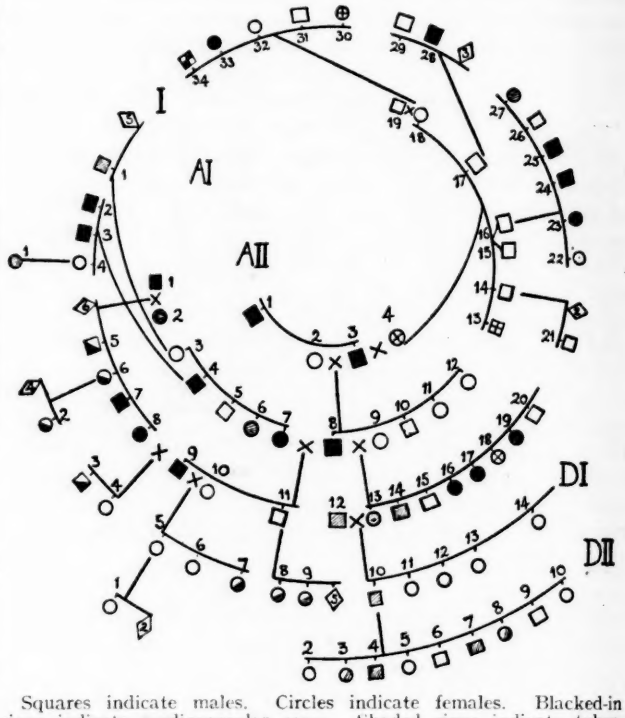
The study of human heredity is a relatively unexplored part of the young science of genetics, and for obvious reasons progress therein must be slow. Thus it is important to record even a single family tree, to afford material for later research. The present case is brought forward for this reason, and also in the hope that it may interest some practitioners in the investigation of the vast amount of similar material to which they have special access.

The bulk of the records were obtained from the matron of a large hospital, who had kept old family diaries, and who could speak personally of many of the members.



Squares indicate males. Circles indicate females. Blacked-in signs indicate cardiovascular cases. Shaded signs indicate tuberculosis. Signs containing cross indicate malignancy. Half shading indicates individuals still alive. Diamonds indicate siblings of indeterminate history, and the number within the diamond the number of such siblings.

Some individuals were known to the investigator, and in some instances the family physician supplied valuable details. The rest of the data were obtained from others of the family, independent confirmation being sought in all cases. The subject studied was the cause of death, although it is admittedly not an ideal one for such investigations, since it is so frequently uncertain, and post-mortem reports are not commonly available. It can, however, yield a certain amount of information, particularly in instances such as this, where many of the records give clear indication of the major morbid factors.

The tree is given graphically in the figure, and the international convention of nomenclature has been adopted. One generation has been arbitrarily named I, and the ancestor and descendant generations are called AI, DI, and so on. The individuals in each generation are numbered consecutively. Siblings of negative or unobtainable history are indicated by diamonds, the number within showing the number of children. The progeny have not been shown when all the offspring yield no

data of any kind. In-comers by marriage are only given when necessary. Cardiovascular cases are indicated by blocked-out signs, tubercle by cross-shading, and malignancy by a cross. All the members are Scottish, except where otherwise stated.

NOTES ON INDIVIDUAL CAUSES OF DEATH

Case	Cause of Death	Notes
AII.1 ...	Paralytic stroke	Over 80
AII.2 ...	Died in childbirth	4-para. Italian
AII.3 ...	Apoplectic seizure	Aged 71
AII.4 ...	Malignant disease (abdominal or pelvic)	Over 60. French
AI.1 ...	Series of paralytic strokes	Aged 68
AI.2 ...	Several paralytic strokes	Over 70
AI.4 ...	"Heart disease"	Aged 64
AI.6 ...	Adult tubercle	—
AI.7 ...	Paralytic stroke	Aged 70
AI.8 ...	Sudden death	Aged 65
AI.9 ...	—	Second wife of AI.8. Cousin of the first wife, AI.7
AI.11 and AI.12	—	Died at 82 and 86 respectively
AI.13 ...	Tumour, probably malignant	—
AI.15 ...	—	Twin; died a few days after birth
AI.16 ...	—	Enlargement of the liver
AI.17 ...	Typhus	Between 40 and 50
AI.18 ...	From uterine fibroid	18 years' invalidism; aged 50
AI.19 ...	Pneumonia	Aged 52
I.1 ...	Tubercle	—
I.2 and I.3	"Strokes"	Over 60
I.5... ...	—	V.D.H. following on acute rheumatism; alive, over 60
I.6... ...	—	Hemiplegia; alive, aged 73
I.7	Cerebral haemorrhage	Just over 60
I.8... ..	Apoplexy	Aged 48
I.9... ...	V.D.H. and Bright's disease	Aged 59
I.11 ...	—	Alive and well: aged 77
I.12 ...	Tubercle	Husband of I.13, who also died of tubercle
I.14 ...	Tubercle and pneumonia	When adult
I.16 ...	Cardiac failure	Aged 75
I.17 ...	Cerebral haemorrhage	Aged 80
I.18 ...	Malignant disease	Over 60
I.19 ...	Apoplexy	Aged 73
I.20 ...	Sunstroke in India	Between 40 and 50
I.21 ...	—	Aged 16
I.22 ...	Following upon operation	Nature unrecorded
I.23, I.24, and I.25	? Heart failure	No details
I.27 ...	Tubercle	Aged 12
I.28 ...	Cardiac failure	About 70
I.29 ...	—	Aged 71
I.30 ...	Carcinoma of stomach	Aged 74
I.31 ...	Following prostatectomy	Aged 79
I.32 ...	—	Alive and well; aged 87
I.33 ...	Angina pectoris	Over 60
I.34 ...	Angina pectoris and carcinoma of œsophagus	—
DI.1 ...	Tubercle	When a young adult
DI.2 ...	—	V.D.H. following on acute rheumatism; alive, aged 49
DI.3 ...	—	D.A.H.; alive, aged 35
DI.5 ...	Diphtheria	Aged 12
DI.7 ...	—	D.A.H. and pulmonary congestion; alive, aged 55
DI.8 ...	—	Tuberculous glands in neck; alive, aged 37
DI.9 ...	—	Tuberculous glands in neck; meningitis in infancy; alive, aged 23
DI.10 ...	Tubercle	Over 50
DII.1 ...	—	Acute rheumatism (heart ?); alive, aged 31
DII.3 ..	—	Tuberculous glands in neck; alive, aged 38
DII.4 ...	Infantile tubercle	—
DII.6 ...	Died soon after birth	—
DII.7 ...	Pneumonia and tubercle	Aged 16
DII.8 ...	—	Tuberculous hip; alive, aged 34
DII.9 ...	Died in early infancy	—

Summary

Summarizing these results, the notes of 108 individuals are recorded, of whom twenty-one are known to have died from cardiovascular disease (this does not include the case of sunstroke), and five cardiovascular patients are alive; five had malignant tumours, one of whom also had angina pectoris; of thirteen tuberculous cases four patients are alive. Sixteen patients are known to have attained the age of over 70 years, and a further twelve to have passed 60.

In the absence of data regarding the members of whom nothing is recorded, an extended analysis of this tree is scarcely justified. At the same time some support seems to be afforded to Weitz's[1] conclusion that hypertension is a hereditary diathesis. He says:

"It appears to me beyond question that a dominant heredity accounts for the majority of the cases. For most of the others a dominant heredity is probable but not certain; there is a small residue of instances in whose production heredity has not been shown to play a part."

It must also be noted that many of the individuals reached an advanced age, and so the expected incidence of cardiovascular degeneration among them would be much increased. But at the same time, if a hereditary tendency to hypertension is indeed present, as would seem to be the case both in the main stock—that is, progeny of AII.3, and in the subfamily of AI.1 and AI.2—then it would be expected to manifest itself at the weakest point of the constitution when old age advanced nearer to dissolution.

The hereditary aspects of malignant disease and rheumatoid diathesis are now attracting much attention, while the relation of inheritance to tuberculosis has been extensively investigated. For a full discussion of these subjects, and also of the inheritance of cardiovascular defect, reference should be made to Baur, Fischer, and Lenz,[2] who deal with the whole topic in a wide and inclusive manner.

The expenses incident to this investigation have been met by a grant from the Ella Sachs Plotz Foundation.

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K. O. Evensen, writing in the August issue of *Norsk Mag. f. Laegevid.*, reports a case of aortic rupture in a man aged 52 who lived two and a half days after the rupture had taken place. The clinical symptoms were haemopericardium and ascites. The blood pressure was high, the systolic being 170 and the diastolic 80. The urea in the blood serum was 155 mg. per c.cm. Electrocardiographic examination showed negative T waves in the first two leads. Post mortem, a large heart, weighing 1,000 grams, was found. The pericardial sac contained 800 c.cm. of blood. A nearly complete rupture was discovered 2 cm. above the aortic valve. Macroscopically no morbid changes could be seen on the aortic wall, but, microscopically, slight inflammation changes in the media and some arteriosclerotic changes were detected.

Clinical Memoranda

ACUTE RETENTION OF URINE

An Unusual Coincidence

The occurrence of acute retention of urine in the same individual twice in less than two years from such different causes as carcinoma of the penis and enlarged prostate may be considered sufficient excuse for the publication of the notes of the case.

The patient, a gnarled old labourer who, after years of toil had found a peaceful haven as a lavatory attendant, was 71 years of age when first seen on February 21st, 1932. He sent for me because he was unable to pass a drop of urine. There had been some slight difficulty for a few days previously. On examination the bladder was found to be distended and there was a large fungating mass at the tip of the penis involving the prepuce and the glans, and apparently completely blocking up the meatus urinarius. The patient was very vague as to how long the growth had been present. I admitted him at once to hospital and ordered him a hot bath and 30 minims of tincture of opium. This failed to relieve him, so after a considerable amount of difficulty I managed to find the meatus and passed a gum-elastic catheter. This was left *in situ* and the bladder drained by stages. As there were no enlarged glands to be felt in either groin, and as the patient's general condition was so feeble I decided that a partial amputation of the penis would have to suffice. This I carried out on February 24th. The wound healed remarkably well, but there was still some difficulty with micturition, so the patient was taught to pass a rubber catheter on himself. He left hospital on March 12th. When I saw him again on March 16th the left leg was swollen and tender on account of a deep venous thrombosis. He continued to pass a catheter on himself until March 23rd, when he found that he could pass water naturally. By the end of March he was walking about again, and in the middle of April he returned to work.

For six months after operation I saw him regularly once a month and thenceforward at two-monthly intervals. There was no sign of recurrence, either locally or in the inguinal glands, and the act of micturition gave rise to no difficulty or discomfort. At the regular inspection on July 12th, 1933, everything appeared to be in perfect order. On July 14th he walked into my consulting room evidently in considerable pain, and reported that he had been unable to pass any water for twenty-four hours. His bladder was felt reaching up to the umbilicus. There was no obstruction at the urethral opening and he was soon relieved by the passage of a large silver catheter. He came again next day and reported passing only a few drops of blood. Examination revealed a moderately enlarged prostate, so into hospital he went again. Drainage of the bladder by an indwelling catheter was resorted to and continued for ten days. The catheter was then removed in the hope that natural function might have been restored. It was not, so a further spell of drainage was tried. At last I decided, with considerable reluctance, that the only choice left open was removal of the prostate. This I did by the suprapubic route on August 21st, 1933. The prostate was the size of a tangerine, with a central flap, which, falling across the urethral opening, completely blocked it, but which was quite easily pushed up out of the way by the point of the catheter. There was a rather severe secondary haemorrhage on the sixth day, but otherwise progress was good and the patient was discharged to his home on October 14th with the wound healed and dry. A few days later a small pin-point fistula formed in the wound, and this remained a source of annoyance, though only a few drops of urine escaped each day until December, when it finally dried up. On December 21st I was sent for late at night and found the patient in agony, with the left testicle swollen and excruciatingly tender. Suppuration followed, and finally the testicle sloughed completely.

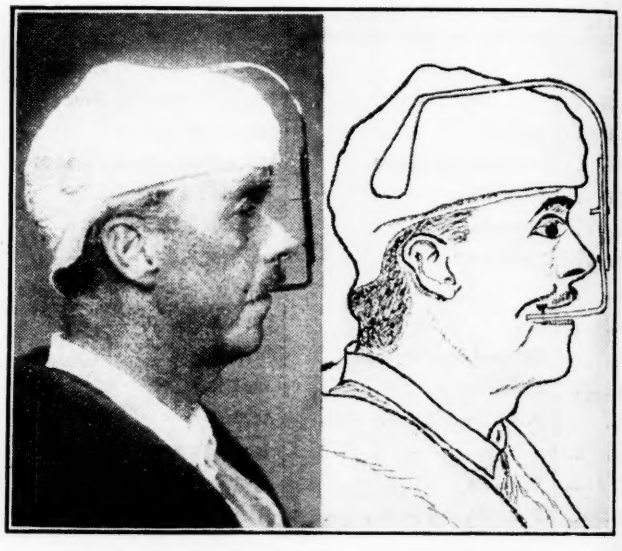
The final chapter in this tale of woe was that in March of this year a large hernia appeared through the operation scar. Now, fitted with a belt, he is able to walk three or four miles a day, pass water "like a king"—as he expresses himself—and he is quite keen to return to his subterranean duties. Incidentally, this case illustrates what an extraordinary amount of trouble can be survived on occasion by one who, judged by all ordinary standards, would be considered a thoroughly bad surgical risk.

Bridlington. C. J. Gordon Taylor, M.D., Ch.B.

TREATMENT OF MAXILLARY FRACTURES

Although fractures of the maxilla are relatively rare, with modern conditions and means of transport they are now becoming increasingly common. Many require very little in the way of surgical appliances, but a certain number may present difficulties which are not easily overcome. The following case, and the method of treatment, may be of interest.

A man aged 52 was admitted to hospital, very shocked, and bleeding profusely from a large laceration at the root of the nose. A fracture extended transversely across



the root of the nose, completely detaching the whole of the maxilla. There was downward and backward displacement of the maxilla of about a quarter of an inch, but the maxilla was freely movable.

The treatment was complicated by: (1) the absence of any articulating teeth; (2) oral sepsis (there were several broken-down teeth and roots present in each jaw); (3) the displacement; (4) facial injuries. Factors (1) and (2) made the use of mandibular-maxillary pressure useless, whilst (3) and (4) were incompatible with the use of a winged maxillary dental splint.

The following splint was devised (see figure), which consists of two main parts—an iron strut fixed to a plaster cap, and a strut having a small vulcanite maxillary dental plate attached to its distal end. The two struts are fastened in the required position by screws passing through a slot, thus giving an adjustable proximation.

The advantages of the method are: (1) comfort to patient and ability to have facial dressings performed without moving splint; (2) the patient can still feed in comfort; (3) he can sleep with head in any required position; (4) he can keep his mouth in aseptic condition; (5) the method provides a strong enough splint to attain and retain anatomical reposition of structures, and there is therefore less likelihood of infection.

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Reviews

INFLUENZA

The enormous literature of influenza necessitated the division of the monograph published by the Pickett-Thomson Research Laboratory into two parts. Part I was reviewed in this *Journal* on April 21st and its general standard of excellence commented on. We have not had long to wait for the companion volume,[1] which fully maintains the standard set by its predecessor; the medical profession will be grateful to Drs. D. and R. Thomson for this comprehensive and valuable book of reference.

Part II opens with a chapter on the complications and sequelae of influenza, and since probably no other infectious disease gives rise to so many complications it is not surprising that their consideration should occupy 300 pages. None have been overlooked—in fact, the authors' policy has been to include all the available published evidence, confining critical remarks to their summaries and conclusions, which follow each chapter or section. The effect of influenza on various physiological states such as menstruation, pregnancy, labour, and the puerperium, and its influence on other diseases are discussed in the next three chapters. The suggestion which has been made occasionally that influenza may initiate such conditions as diabetes mellitus, Addison's disease, and pulmonary cancer is dismissed as extremely doubtful and unproven, but stress is laid on the unfavourable effect of concomitant influenza on many diseases, more particularly pulmonary tubercle and surgical conditions.

Chapter XL is devoted to pathology—a comprehensive account—and this brings us to a consideration of epidemiological data. There is still a lot to learn about the epidemiology of this disease, which is responsible for such enormous and serious pandemics. Is there more than one strain of virus? Is the high mortality of the secondary waves of epidemics due to co-operation between the prime cause and a secondary infector, the two passing together as one aetiological agent? What is the relationship of interpandemic influenza to epidemic influenza, and how often do we err in the diagnosis of the sporadic case? Only a more intimate knowledge of the prime cause of the disease will enable us to answer these questions, and the authors rightly hail as of fundamental importance the recent work at the National Institute for Medical Research in this respect. Following this are chapters on the mode of transmission, and vaccine and serum prophylaxis and therapy. Everyone will agree that direct transference from patient to patient represents the way in which the great majority of infections take place: although this disease may occasionally be spread indirectly by articles used by the patient this can hardly be of great epidemiological importance.

The authors' summing up on vaccine prophylaxis also is not likely to meet with much dissent. They agree with the view recently expressed by Dochez and his colleagues that by the use of vaccines the incidence of influenzal pneumonia can be lessened; whether the use of vaccines made with the prime causal agent will be of any value only future experiment can decide. Convalescent serum in prophylaxis and treatment has not received extensive trial, and the authors suggest that further work should be done along these lines. Finally, we have chapters on prevention and treatment. Prevention can really be summed up in good personal and environmental hygiene and avoidance of infection. Attention is rightly drawn to the fact that nasal douches and gargles may be harmful through irritation of the mucous membranes; care should be taken in their choice. The authors have a preference for one containing sodium ricinoleate in an oily medium.

The volume closes with an addendum on work published too late to be dealt with in its appropriate section, a list of some 4,500 references and authors, and subject indices. The authors state that they propose to rest for a few years from the labours entailed in the compilation of these monographs; they surely deserve to.

[1] *Annals of the Pickett-Thomson Research Laboratory. Influenza.* Part II, Monograph XVI, vol. x, May, 1934. By D. and R. Thomson. London: Baillière, Tindall and Cox. 1934. (Pp. xix + 961. £3 3s.)

MEDICAL TREATMENT

The seventh volume of the series on medical therapeutics published in connexion with the chair of therapeutics of the Faculty of Medicine of Paris has now appeared.[2] This volume deals with the treatment of affections of the blood vessels and kidneys, and like the former ones is brought out under the immediate supervision of Professor Loeper, who himself contributes several chapters. The subject is divided into sections, each separately considered. For instance, the affections of the kidney are discussed under the headings of the kidney and its response to diuretics, treatment of renal lithiasis, haematuria, urinary antiseptics, tuberculosis of the urinary tract, and general chapters on bleeding as a therapeutic measure, the effect of endocrine gland extracts on renal function, and the principles of dietetics in nephritis. The idea is to approach therapeutics from the clinical aspect, explaining the genesis of the symptoms as an indication for treatment, and the physiological use of a medicament in order to decide whether to prescribe it or exclude it in varying circumstances. There is thus a certain amount of duplication in the sections, but the articles are well written and full of information. For those who can read easy French this volume will be useful as a guide to modern therapeutics. It is more suitable for a library than for the practitioner's consulting room, as the series is to be completed in nine volumes, each costing 45 to 50 francs.

SURGERY FOR THE G.P.

Surgery of a General Practice,[3] by Arthur E. Hertzler and Victor E. Chesky, is a development of a book on minor surgery which appeared four years ago, and it endeavours to give the general practitioner the information he requires for dealing with such surgical conditions as may lie within his scope. The first part is devoted to a consideration of wounds and haemorrhage and all infective conditions, and this is followed by a general survey of the whole of surgery, including the special region of the nose and nasopharynx, and gynaecology, but excluding the abdomen. The concluding portion deals with such technical matters as the preparation of materials, the closure of wounds, bandaging, and general therapeutic methods.

The compression of such a range of material into so brief a compass necessarily means very unequal treatment, and we feel that it would undoubtedly have been better to limit the subject-matter to conditions which the general practitioner may actually be called upon to treat. The injection of the trigeminal nerve, for example, can scarcely come within his scope, whilst half a page is scarcely sufficient for a discussion on carcinoma of the tongue.

[2] *Thérapeutique Médicale.* Vol. vii, *Vaisseaux et Reins.* By Maurice Loeper. Paris: Masson et Cie. 1934. (Pp. 340; 26 figures. 50 fr.)

[3] *Surgery of a General Practice.* By Arthur E. Hertzler, M.D., and Victor E. Chesky, M.D. London: Henry Kimpton. 1934. (Pp. 602; 472 figures. 42s. net.)

When in the latter case we are told that "complete destruction with the cautery under local anaesthesia gives as good results as most radical operations," and when radium is not even mentioned, we can understand that "treatment is discouraging in the extreme."

Like most American publications, the volume is finely produced and magnificently illustrated. The illustrations alone are well worthy of the study of anyone engaged in the practice of surgery, whether as a general practitioner or as a consultant. Many of them illustrate rare conditions and should be of great assistance in their diagnosis, but we have sufficient confidence in general practitioners in this country to be sure that they will never attempt to treat them.

PICTURES OF EYE DISEASES

There have appeared of late quite a number of atlases of drawings of eye diseases and abnormalities as displayed in the fundus by examination with the ophthalmoscope. Now one has been issued which deals with external conditions. Mr. Humphrey Neame has compiled an *Atlas of External Diseases of the Eye*,[4] and his fifty-one pictures cover a wide variety of disease. Some are of the simplest and most familiar order, such as the picture of the common sty; others are of an exceptional and rare type such as that of a war injury, the result of burns by dichlorethyl sulphide, or mustard gas. There is not unnaturally a great temptation to include pictures of rarities, just because they may, and in this instance we hope sincerely will, never be seen again. But in a little book that is evidently intended for students such inclusions would seem to be a mistake; rather, the space might have been given to the further illustration of more common conditions, such as interstitial keratitis, of which there are only two illustrations, yet the forms of the disease are protean. Facing each figure there is a page of text. There are terse details on synonyms, symptoms, diagnosis, aetiology, pathology, course, prognosis, treatment, and complications. The drawings are excellent, and the reproduction by process blocks is as good as this can be. But the somewhat florid complexion of this means of reproduction makes us sigh for the delicate beauty of the old-time lithography.

BACTERIOLOGY

Mackie and McCartney's *Introduction to Practical Bacteriology* is well known to laboratory workers in English-speaking countries. It has passed through four editions in nine years, each edition providing an expansion of contents without, fortunately, adding much to the bulk of the volume. A feature particularly welcome in the latest edition[5] is the description of the methods Dr. McCartney has developed for substituting stoppered bottles for cotton-wool-plugged test tubes. The advantages claimed for this is that the stock of media does not get so dry when stored for a few days, and the bottles can be more easily packed and transported. Whether or not the new methods will prove as satisfactory as the old can only be decided by experience, but in the meantime pathologists will be glad to have a description of the new canned medium methods. This book has always been a very good one for reference purposes. During the four or five weeks since it was sent to the reviewer it has happened that he has had to look up a number of points of technique. On each occasion he has looked first to see if the question was dealt with in the new Mackie and McCartney. The subjects have included methods for the isolation of viruses, the diagnosis of climatic bubo, the natural diseases of guinea-pigs, complement-fixation tests in diseases other than syphilis, and the identification of Salmonella bacteria, etc. On each of these subjects he has found something fresh and useful in the new edition of this book.

Dr. Gohar's *Elementary Bacteriology*[6] has been written for medical students preparing for their examination in pathology. It will probably be useful for this purpose because the facts are set out in a pithy way without any detail which the student could regard as redundant. Looked at from a more disinterested point of view the book is open to much criticism, for its many mistakes in spelling (some of which are corrected on an errata slip attached to page 136), and for the poor character of the illustrations. The two sections at the end of the volume, on blood diseases and elementary hygiene, are out of place in a textbook on bacteriology.

SCIENCE AND SOCIAL NEEDS

Professor Julian Huxley's *Scientific Research and Social Needs*[7] is published as the first volume of a library of science and culture which is to be issued under the editorship of Professor H. Levy. The purpose of the library is stated to be the presentation of a picture of the world as science is shaping it. Professor Huxley has undertaken a pilgrimage of survey, at the suggestion of the B.B.C., into the activities of British science, and this volume is partly an account of his survey and partly his comments thereon and those of others with whom he has discussed its bearings. In the first half of the book there are chapters dealing with research in relation to food, building, clothing, health, and transport, and each of these chapters contains records of great interest; the rest is devoted to the discussion of the relations between science and social affairs. The general observation is made that while the applications of science to industry are highly developed and financially supported, biological and humanistic research is relatively undeveloped and ill supported. In arriving at this verdict Professor Huxley does not appear to have taken into account the work that is being done in the medical sciences in institutions throughout the country which are not under public authority and which, presumably, should be included in the humanistic class. Throughout the volume he uses the word "science" in a more restricted sense than is generally favoured to-day, when the tendency is to extend the title to all "gathering of evidence," whether this proceeds to judgement or whether judgement is suspended. He has a particular complaint as to the little use which public authority is making of psychological science, but the reason for this is not far to seek: considering the psychological knowledge at present available and agreed, as distinct from opinions and doctrines, it would be difficult to justify the establishment of a specialist psychological service in public institutions independent of medical service.

The book includes discussions with Professor Levy, with Sir T. D. Barlow on "Research and Industry," and with Professor Blackett on "Pure Science." The discussions with Professor Levy turn chiefly on the political aspects of sociology, and the reader is given glimpses of a society regimented and controlled on "scientific principles," in which all national distinctions have disappeared. Those who plan on this scale might

[4] *Atlas of External Diseases of the Eye.* By Humphrey Neame, F.R.C.S. London: J. and A. Churchill, Ltd. 1934. (Pp. 110; 51 coloured plates. 15s.)

[5] *An Introduction to Practical Bacteriology. A Guide to Bacteriological Laboratory Work.* By T. J. Mackie, M.D., D.P.H., and J. E. McCartney, M.D., D.Sc. Fourth edition. Edinburgh: E and S. Livingstone. 1934. (Pp. 504. 12s. 6d. net, postage 6d.)

[6] *Elementary Bacteriology.* By M. A. Gohar, Ph.D., F.R.C.P.E., M.R.C.P. Cairo: F. E. Noury and Sons. 1934. (6s.)

[7] *Scientific Research and Social Needs.* By Julian Huxley. London: Watts and Co. 1934. (Pp. 287; illustrated. 7s. 6d.)

profitably consult the experience of the profession of medicine, and among the points in that experience specially worthy of attention are the lessons it has learnt regarding the value of the panacea, the confident dogma, and the too hastily welcomed remedy. The idea that society is a proper object for " scientific " treatment is declared by Professor Huxley to be revolutionary. Presumably he has in mind some wholesale treatment, for the beginnings were made long ago. The idea of running and controlling society as a business venture on scientific principles has its fascinations, and no doubt the few in control would enjoy life ; but it would be difficult to find to-day a body of scientists of the first rank who would be willing to draw up a scheme of complete reorganization and to guarantee that, under it, the many would enjoy themselves. One " scientific principle " held, at any rate, by medical science is that the time to apply a remedy is when the result is predictable ; application without this proviso is called by another name. The rule is cautious, but is it over-cautious?

In his chapter upon science and health Professor Huxley debates many questions of great importance: to several of them he would be among the first to admit that answers cannot be given. With the answer which he gives to one the medical profession is in complete accord—namely, that the best of all weapons against disease is the maintenance of a high standard of general health.

Notes on Books

With the increasing use of the rhesus monkey for experimental purposes the need for a manual on the anatomy of this animal became imperative. Consequently the American Association of Anatomists in 1930 set up a committee to go into the matter, and a book[8] has now appeared in which eighteen contributors collaborated. The B.N.A. nomenclature is used throughout, the terminology of human anatomy having been chosen rather than that of comparative anatomy. Nearly all the illustrations were drawn especially for this book by a medical artist, Benjamin Kopel.

Two numbers of *Tabulae Biologicae Periodicae*[9] which have recently appeared contain collected data over a wide range of biological sciences. Two articles are of interest in relation to human physiology: one on the energetics of contraction of skeletal muscle, and another on blood groups. The former article gives collected data showing the heat production, lactic acid production, oxygen usage, etc., of skeletal muscle. Most of the figures refer to frog's muscle. The particulars have been assembled from seventy-four papers, most of which were published during the last five years. The article on blood groups contains a large amount of interesting data. Diagrams are given which show the relationships between man and the anthropoid apes, as indicated by the blood groups. The inheritance of blood groups is becoming a question of medico-legal importance, and this article shows the chances of inheritance from all the various types of parentage ; it also discusses some of the theories of gene distribution that have been advanced to account for these figures. Finally, there are data regarding the geographical distribution of blood groups.

The small monograph *Hallucinations et Délire*[10] written by Dr. Henry Ey, with a preface by Dr. J. Séglas of the Salpêtrière, is based on work carried out in the clinic of Professor Henri Claude. The author discusses the relationship of verbal psychomotor phenomena and hallucinations. He divides hallucinatory phenomena into three main groups—illusions, hallucinations, and pseudo-hallucinations—which he defines as objectivations of the phenomena of thought and language. In all of these there is both a sensory and a motor component. The book is divided into two sections, the first dealing with hallucinatory symptoms and verbal automatisms, the second with verbal automatisms and delusional forms. It will well repay reading because the author gives the views of the French school of psychiatry, including the well-known work of Clérambault.

[8] *The Anatomy of the Rhesus Monkey (Macaca Mulatta).* Edited by Carl G. Hartman and William L. Straus, jun. London: Baillière, Tindall and Cox. 1934. (Pp. 383 ; 128 figures. 27s.)

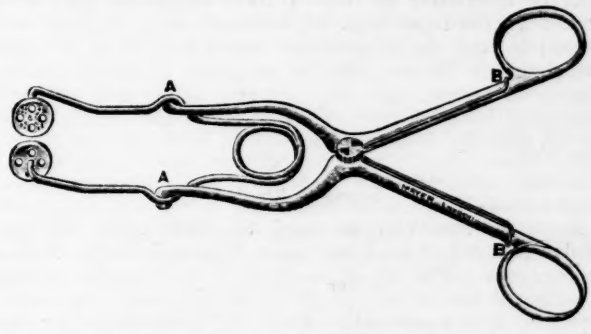
[9] *Tabulae Biologicae Periodicae.* Band III, No. IV ; Band IV, No. I. Berlin: W. Junk. 1934. (M. 55 for single volumes ; M. 48 for subscribers to whole work.)

[10] *Hallucinations et Délire.* Par Dr. H. Ey. Paris: F. Alcan. 1934. (Pp. 192. 15 fr.)

Preparations and Appliances

MODIFIED BENEY'S TONSIL CLAMP

Mr. Alex. Tumarkin, F.R.C.S.Ed. (Liverpool), writes: Nowadays dissection of tonsils under general anaesthesia is becoming more and more the operation of choice. Haemorrhage is, of course, the main bugbear, and the widespread use of Beney's tonsil clamps is sufficient proof of their efficiency. My own method is to dissect the right tonsil first, and then, as quickly as possible, and without looking for any bleeding points, to apply a large dab to the tonsillar fossa and keep it in place with a Beney clamp. The left



tonsil is treated similarly, by which time removal of the right pack usually reveals a dry fossa. The interval between removing the tonsil and applying the dab should be as short as possible, so as to minimize the brisk haemorrhage which frequently occurs. Unfortunately, using the ordinary Beney handle, one often fumbles for valuable seconds in picking up the clamp, and it is precisely during those seconds that the pharynx can fill dangerously with blood. I have therefore modified the handle simply, so that its points (A A) lie in abduction, as in the figure, instead of adduction. The clamp is thus firmly gripped in the handle and can be picked up and applied in a moment.

The instrument was made to my design by Messrs. Mayer and Phelps of New Cavendish Street, London, W.1.

ACETYLCHOLINE BROMIDE

We have received specimens of acetylcholine bromide prepared in ampoules (0.1 gram in 1 c.cm.) for intramuscular injection (Burroughs Wellcome and Co.).

During the last year it is probable that more physiological research has been carried out in connexion with acetylcholine than in relation to any other single chemical substance. The result of this intensive work has been to show that it is one of the most important chemical regulators of the functions of the body.

The clinical use of this interesting substance is attracting increasing attention. It is dangerous to give the drug intravenously owing to its powerful action on the heart ; and, since the blood contains a powerful esterase which breaks down acetylcholine in a few seconds, the substance has little action when given subcutaneously. Intramuscular injections have, however, been found to give satisfactory results. Acetylcholine has been used successfully to counteract post-operative paralysis of the intestine, and to a certain extent to relieve acute constipation. It is also of value in certain types of vascular disturbance associated with arteriolar spasm.

DESITIN OINTMENT

Desitin ointment (prepared by Desitin-Werk, Hamburg, marketed by Messrs. Coates and Cooper, Ltd., 94, Clerkenwell Road, E.C.1) contains cod-liver oil mixed with a basis of soft paraffin, zinc oxide, and talc. The rationale of the preparation is that a local supply of fat-soluble vitamins should promote healing.

NOISE AND HEALTH*

BY

DAN McKENZIE, M.D., F.R.C.S.Ed.

Can it be shown that noise inflicts definite injury upon body or mind? Is noise harmful, or is it only disagreeable? This inquiry deals with the effect of noise upon the general mind and body, and it leads us into several interesting regions of physiology and psychology. Physically, as we know, noise is a complex of irregular, conflicting, and discordant sound waves—a chaotic jumble. But this physical fact does not interest us much, since we are chiefly concerned not with physical things and vibrations but with living people. So we shall adopt the psychological definition that any sound becomes noise when it is unpleasant. But even this definition needs explaining. What makes a sound pleasant or the reverse?

First of all comes loudness, and we may say that sounds which are painfully loud are harmfully loud, either to ear or to brain, or to both. Here the disagreeable is undoubtedly harmful. Sound may be so loud as to be directly dangerous to life. I have suggested that some of the deaths from high explosives during the war were caused by the shock of sound waves imparting a violent succussion or shaking to the neurones of nerve centres. These, of course, are not the sounds we are ourselves concerned with at present. Our street and traffic noises do not directly endanger life.

Sound in Rhythm

There is, however, no need to dwell upon the particular element of loudness, since it is sufficiently obvious to everyone. But there is another disagreeable quality of noise, of which little or no mention is made, but which deserves notice—namely, that of arrhythmia or unexpectedness. In the matter of rhythm we enter a region of vital mechanics of which we know, even to-day, very little in so far as its fundamentals are concerned. Rhythm, meaning thereby the repetition of an event at regularly recurring intervals, is one of the modes by which time enters into the constitution of the universe as we know it. The question is, of course, the old one: is the element of rhythm imparted to the cosmos by our own mind or is it inherent therein? For the nerve processes themselves function by following a regular rhythm, which seems to vary in different forms of life, although it is fixed for each. In ourselves it seems, moreover, to vary with age, as in childhood it is, like the heart beat, more rapid than in old age, and the more rapid the individual rate the slower do outside events seem to move, as in the time machine of H. G. Wells. Or to put it another way, the more rapid the rhythm the more rapidly does the brain perceive and register impressions. To a child a day is as long and as eventful as a week is to an old man, for the mind measures time, not by the clock, but by its own happenings. That being so, the life of an ephemerid may seem to these insects every bit as long as ours. Their minutes may equal our days. This leads us to a fascinating subject, which, however, I may only glance at—namely, the function of rhythm in the arts, more particularly in those like music and poetry, which appeal to us exclusively or chiefly through our hearing.

Our particular interest in the subject proceeds from the close and intimate connexion that subsists between hearing and muscular movement, in consequence of which, among other effects, we dance and march in time to music. It is, by the way, a remarkable fact that just as there are people who are tone-deaf—that is, people who are devoid of the sense of pitch—so there are people who have no sense of rhythm. Sir Humphry Davy, for example, is said to have been quite unable to keep step in marching. The feeling for rhythm and that for pitch appear to be independent of each other. You may have no "ear for music" like Sir Walter Scott, and yet be able to dance and to write verse, even verse rhythmically complex such as that in *Hail to the Chief*.

The point to which I wish to direct attention is that rhythmic sound, in which accent or recurring loudness coincides with our movement, as in marching to music, has the effect of preventing or postponing fatigue. For rhythm sustains and carries us onwards as on wings, the sound stimulus passing direct from ear to muscle in such a way as to render our movements automatic. And it is by a free surrender of ourselves to the almost hypnotic influence of musical rhythm that we become such automata. But the automatism, unlike that of true hypnotism, is only partial, seeing that the conscious mind remains fully aware of what is going on. Nevertheless it suffices to release the upper nerve centres from the need of supplying the succession of nerve stimuli necessary to initiate and sustain the muscles in their incessant movement. For continually recurrent acts of volition generated inside the brain there is substituted a periodic stimulus from without. In this way the mind is set free to enjoy the activity of a body that is no longer a burden upon its attention, a drain upon its energy.

From this analysis it would appear that, inasmuch as rhythmic movement in response to music can be continued for surprising lengths of time without leading to fatigue, it is the act of volition, the effort of willing, and not the muscular action itself, that most rapidly tires us. Thus rhythmic or expected sound works along with our natural impulses, and so gives us pleasure. Moreover, it can be made to harmonize with the natural muscular expression, in voice or movement, of our various emotions. We dance and are joyful; we are depressed and solemn as we listen to a funeral march; and in the old days of romantic war, fortresses were stormed to the tune of the "British Grenadiers."

Arrhythmic Sound or Noise

Rhythm pervades creation. But in noise we revert to chaos, a strange, unfriendly world, where every event grates upon our sensibilities. Now whether it is rhythmic or arrhythmic, musical or noisy, sound when it falls upon the ear passes direct to the muscles, exciting them to movement, the rhythmic pleasant, but the arrhythmic unpleasant. Arrhythmic, or as we call it "unexpected," sound startles us, disturbs us, irritates us, apparently because its irregular motion conflicts with the even motion of our being. And as it is a world in opposition, so it necessitates an irregularly recurring adjustment of our mental processes, together with a difficult effort of the will.

The Neuro-muscular Response to Noise

Now in describing the effect of unexpected noise upon the mind I said that "it startles us." Let us examine the phenomenon. Our first reaction to a sudden, sharp, unexpected sound is a muscular start, which places us in a *position of defence*. It is involuntary, and is so rapidly accomplished that our consciousness lags behind the dispositions made, just as it lags behind the events when we are involved in a motor or other accident. I have known a sudden loud bang bring a sleeper out of his bed and on to his feet before he became awake. Along with this "start" there are set in train the changes in the living body which we associate with the emotion of fear: the face pales; the limbs tremble; the male prepares to strike; the female to flee or to faint. In a word, a sudden loud noise arouses fear and all its effects. When sufficiently pronounced it is liable to be followed by what is called "shock," in which there is a general depression of vitality.

I do not for one moment mean to say that every noise we hear and object to startles us and is accompanied by fear and followed by shock. What I do say is that on many occasions a certain degree of those signs and symptoms is induced, and if one is exposed to their continuance a general feeling of fatigue and even exhaustion follows. If, as happens not infrequently, the start having passed, the moment of terror is associated with a moment of paralysis of the will, of hesitation, of oscillation of the

* Abridgement of paper read at the Conference of the Anti-Noise League, Oxford, July 14th, 1934.

body in and out of danger, then you get, for example, the pedestrian's contribution to the accident that may either kill or maim him. In a paper on health and noise this source of ill-health is not to be ignored ; nor is the means of prevention to be slurred over. As to that, my own conviction is that the motor hooter should be entirely abolished. It is a deceitful instrument ; it confers upon the driver a false belief that he can take risks, and it confers upon the public the false belief that it prevents accidents. I affirm that it causes more accidents than it prevents.

It is because of neuro-muscular disturbance that noise is tiring, and to people who are depressed in health, and particularly to those who are mentally unhealthy or ill-balanced, it may be dangerously tiring. But I know even healthy people who get a genuine migraine whenever they travel in a London tube train. Contrast the muscular reaction from rhythmic sound with that from noise. The one relieves the brain of its burden, lightens its work, and postpones fatigue ; the other increases its burden, adds to its work, and so hastens and increases fatigue. There are, of course, great differences in the reactions of people to noise. Some few fortunate persons never seem to suffer any inconvenience at all, and they cannot understand what we are making all the fuss about. At the other extreme we find the hypersensitive ; their patron saint is Thomas Carlyle, who once accused a carpenter, working in his house, of breaking the Decalogue with every stroke of his hammer. But between those two extremes there lies the great mass of ordinary men and women who are upset when noise is unusually loud, or when they themselves are out of sorts.

"Accustomed" Noise and its Effect

We must now take notice of a criticism that is frequently levelled against anti-noise work. It is, that as we get accustomed to noise we learn to ignore it, and it then becomes innocuous. This statement is partly true and largely false: true that we learn to ignore it, up to a point ; false that it is then innocuous. First of all—and here I appeal to general experience—the everyday noises we can tolerate when we are well and robust become unbearable when we are weary, depressed, or ill. This shows, what the physiologist can understand, that no nerve stimulus or impulse, once initiated, can be annulled.

Nerve energy is as indestructible as any other kind of energy. In noise, whether habitual or occasional, the ear receives and the ear transmits a hyperstimulus to the brain. It we are unaccustomed to it, reaction is manifest in an exclamation or a start—that is to say, in a more or less violent muscular movement—the consequence of the firing of an explosive train. If, however, we are accustomed to it, no reaction is visible, not because the nerve impulse is obliterated, but merely because it is side-tracked and dispersed among a number of subsidiary nerve centres. We are often quite aware of the effort necessary to inhibit or damp down such effects. As the visible reaction is less, so the secondary emotional effects are also reduced, and the phenomenon of fear and shock minimized. But the point is, that although the expenditure of energy is diminished it is not entirely prevented ; there is still some waste, and as a result there may be fatigue.

The kind of noise that we most easily get accustomed to is continuous noise. Yet here again the rule of inevitable nerve impulse holds good. The result in this case is, that although the muscular response does not take the form of a start or a jump it nevertheless still manifests itself, this time in continued muscular tension. People whose occupation places them in positions of prolonged strain and responsibility know how restful it is to bring about a state of general muscular relaxation or slackening of fibre. Continuous noise renders such relaxation difficult of accomplishment. And once again you see how it leads to fatigue and even exhaustion.

So we may say that while noise does not induce organic disease, apart from deafness, it does induce a condition of functional weakness or disability, which is manifested in exhaustion more or less severe according to: (1) the kind of noise ; (2) the normal mental and constitutional make-up of the recipient ; and (3) the state of his health at the time of his exposure. And this state of fatigue, though not itself disease, opens the door to disease.

Here we have one of those functional upsets that may lead to organic troubles. A healthy man in full vigour can stand ordinary diurnal street and traffic noise without suffering much, if any, damage. Not so, however, the hypersensitive and the weakly. Noise makes them irritable, and irritability is a sign of asthenia. I have heard robust men blame the hypersensitive because they suffer from such excessive nerve stimuli. But the problem is not to be solved by cursing these people. We may not all be hypersensitive, but there are very few of us who have not our hypersensitive moments, when noise, even moderately loud noise, becomes an intolerable irritant.

Noise and the Sick

There remains still to be considered an aspect of the subject which calls for direct and deliberate attention, and that is the deleterious effects of noise upon the sick. There are many diseases, mostly acute, in which quiet is of supreme importance ; much more important often than feeding. Yet, while minute dietetic directions may be given by their medical attendants, "quiet" is, as it were, understood. Take pneumonia, the septic infections, those forms of heart disease that are attended with insomnia, post-operative states, the melancholy troubles of nervous sufferers that form the borderland between sanity and insanity—these are only a few of the commoner diseases in which rest and sleep are not only desirable but imperative if the patient is to recover rapidly and smoothly. How do they fare to-day? Go round any of the London nursing homes and hospitals and ask the ward sisters, or become a patient and make the experiment yourself. I am sure if noise could be reduced, so would the consumption of sleeping-draughts.

It is true, no doubt, that much of the noise disturbance in nursing homes and hospitals comes in from the streets ; but not all of it. Too much is generated within the hospital itself. Doors are banged, blinds rattle, lift gates crash, tin pails clatter, and a hundred other noises, great and small, are constantly occurring. This ought to be stopped. One of the ideals, too often forgotten, not only in the construction but also in the running of a hospital or nursing home, is the ideal of *quiet*. Apart altogether from the exclusion of an irritant, the positive value of a calm and soothing environment upon the subconsciousness of a sick person is inestimable. It helps to constitute the therapeutic atmosphere, and, by soothing the patient's apprehension, aids in the cure of his disease, as the old Greek physicians of the Aesculapian temples knew. Not only in health, but also in sickness the ideal of quiet is one that we modern physicians have lost. Should we not try to regain it?

R. Benard and G. Thoyer (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, July 2nd, 1934, p. 1069) record a case of Addison's disease to demonstrate the respective actions of suprarenal cortical and medullary extracts in this malady. Primary treatment with the former caused rapid disappearance of the acute symptoms, particularly the asthenia, but had no effect on the blood pressure. Conversely, the medullary extract, which was then given, produced a marked durable rise in the arterial tension without influencing the asthenia, which reappeared in a few days, rapidly disappearing, however, on the resumption of the cortical extract. The patient has remained well and active for three months following the total cessation of treatment. A daily dosage of 1 gram of the cortical extract may be safely administered, provided that this maximum amount be attained by progressive doses and given in two divided daily doses. Béclère suggests that the extract does not act, as in thyroid medication, by supplementing an endocrine insufficiency, but by favouring a compensatory hypertrophy of the portions of the suprarenal parenchyma remaining healthy.

STATE OF THE PUBLIC HEALTH

SIR GEORGE NEWMAN'S REPORT*

It is sometimes forgotten by the public that the Ministry of Health concentrates the health services previously exercised not only by the Local Government Board but by the National Health Insurance Commission, and in the latter respect it controls a general practitioner service of enormous extent, engaging 16,500 practitioners in England and Wales, and entitling two-fifths of the population to medical benefit. In Sir George Newman's annual reports the two services—one represented by the medical officer of health and the other by the insurance practitioner—are not set opposite to one another, but are regarded as complementary. This British system has not only tradition but the balance of argument in its favour, and it derives noteworthy support from the Chief Medical Officer of the Ministry, who praises highly the medical service—which is a general practitioner service—afforded to the insured population. Not only is it vastly superior, he says, to the service given to the same class of people before the introduction of national health insurance, but the improvement in its content since the Act came in has been steady and continuous.

Three factors which are chiefly responsible for the rise in quality of the service are mentioned. In the first place, the Ministry of Health, in consultation with the Insurance Acts Committee of the British Medical Association, and, where necessary, with the approved societies, has sought to improve and simplify the conditions under which practitioners contract to provide advice and treatment. Secondly, the experience of the insurance medical service has developed in the members of the profession an appreciation, to an extent not previously attained, of their function as participators in a professional service for the public good. Finally, as a result of the progress of research, methods of treatment have been made available which, until recently, were unknown and unused, such, for example, as the treatment of diabetes by insulin, or of pernicious anaemia by liver extract.

The "Bottle of Medicine" Habit

What the newspapers call a "story" might be written around the statistics of insurance prescribing. The people of England—the same does not apply to Scotland—are sometimes regarded as confirmed medicine drinkers. The bottle of medicine is looked upon by the working man, and still more by his spouse, as a necessary concomitant of medical attendance. Statistics show, however, that this habit of mind does not prevail to the same extent in all parts of the country. A table is given in the report showing, for every one of the 128 insurance areas in England, the average cost of prescribing per head of insured population in 1933. The list extends over a surprisingly wide area, from progressively thinking Manchester, where the average annual cost of medicines per insured person is very nearly five shillings, to "backward" Oxford, where it is below 1s. 10d., with London in a middle place, at just under three shillings. Even among districts in close geographical relationship there are surprising differences. Why should the cost in Gateshead be a shilling more than in Middlesbrough on the other side of County Durham, or in Essex a shilling more than in West Suffolk, or in Cambridgeshire a shilling more than in the Isle of Ely, or in Rutland 1s. 4d. more than in the adjacent Holland division of Lincolnshire? The population most thoroughly "physicked" is that of Lancashire and Cheshire, where in almost every household in years gone by a regular item of expenditure was the doctor's bill, and an equivalent was demanded in the shape of something to be received not merely by the understanding but by the mouth. Traditional habit reflects itself in the prescribing statistics, and of the twenty most expensive prescribing areas eleven are in these two counties palatine.

It is easy to scoff at the bottle of medicine, just as Douglas Jerrold wrote of the pill as the daily bread of thousands. Sir George Newman pronounces a more considered judgement when he suggests that many practitioners give medicine in order to ensure that due regard is paid to their advice. It is not a question of sugar-coating the pill, but of using the pill itself as a cloak for counsel, which may be even more disagreeable to take. The prescribing doctor may have no greater faith in some of his medicines than the educated layman, but it is important that the patient should continue to come to him and heed what he has to say. Some doctors no doubt give a bottle of medicine fearing that they may otherwise lose their patients, but, at any rate where doctors work together with a reasonable understanding, there ought to be no difficulty on that score. A cantankerous patient may leave one doctor for another, but an equally cantankerous patient may at the same time leave the second doctor for the first, and possibly through these various transfers it may dawn upon the prescribed-for community at last that the important thing is not what they get made up at the chemist's, but the professional skill and care which is just as effective even when medicine is withheld.

The Chief Causes of Sickness

Another interesting sidelight on insurance practice is afforded by the result of the special investigation made of insurance medical records for 1933. A table is given showing the relative incidence of the chief causes of sickness for which insured persons consult their doctors. The number of practitioners whose records were investigated for this purpose was 825, and the insured persons for whom they were responsible numbered just over a million. Of the 77,180 cases attended during the year the largest number—nearly a quarter of the total—were cases of bronchitis, tonsillitis, nasal catarrh, and the common cold. Next came influenza, and after this the cases grouped respectively under diseases of the digestive tract, injuries and accidents, and lumbago and rheumatism. Only 548 of the cases (0.7 per cent.) were of tuberculosis in any form, and only 154 (0.2 per cent.) were of malignant disease. Indeed, the chief mortal diseases all take a low place in such a table. If these statistics are a reflection of insurance practice generally, out of every 100 patients he sees the practitioner comes across only about one having organic heart disease, one with anaemia, one with pneumonia, three with diseases of the genito-urinary system, five with skin diseases, six with diseases of the nervous system and special senses, and seven with abscesses, boils, and other septic conditions. "This demonstrates again," says Sir George Newman, "that morbidity figures have little direct relation in practice to mortality figures, and that while the general practitioner has on occasion to sign death certificates, his day-to-day work consists in the alleviation and cure of the less fatal ills of life, and staving off, with considerable success, the end which is in store for each of us."

Infectious Diseases

The decline in the mortality of infectious diseases during the last thirty years has been remarkable. In 1933 there were only 2,646 deaths in England and Wales from diphtheria, 1,948 from measles—the lowest on record—and 729 from scarlet fever, although the total number of cases

* The first notice of the Annual Report for 1933 of the Chief Medical Officer of Health appeared in the *Journal* of September 29th (p. 598).

of scarlet fever (129,528) was the highest for thirteen years. The prevalence of small-pox (variola minor) was very much lower than in the previous year, the number of cases being 631, as compared with 2,039, and for the first time since 1921 the year included one week in which no case of small-pox was notified. The number of deaths classified to small-pox was two. Enteric fever showed a large decrease—1,758 cases as against 2,544 the year before. Reference is made to the small outbreak in the North Riding of what is called in the report "epidemic myalgia" or "epidemic myositis," as described by Dr. W. N. Pickles[1] under the name "Bornholm disease." This was the first occasion on which the disease has been recognized in this country, though there is no doubt that it has been observed previously both here and in other countries, and recorded under various designations suggested by its cardinal symptom.

Tuberculosis and Venereal Disease

In dealing with tuberculosis Sir George Newman mentions that it is twenty-one years since a Departmental Committee was appointed under the chairmanship of Mr. (now Lord) Astor to consider a general policy in respect to the tuberculosis problem. Nothing in the experience of the subsequent period casts any doubt on the soundness of the lines of action laid down by the Departmental Committee on which the present national scheme for dealing with tuberculosis is based. To no one special factor in public health can the credit for the general improvement be assigned, but statistics prove that all forms of tuberculosis are declining. Immediately before the setting up of the national scheme the annual total of deaths in England and Wales from tuberculosis of the respiratory system was 38,000; the figure for 1933 was below 28,000; and the diminution in the number of deaths from other forms of tuberculosis within the same period has been even more remarkable. Yet there is still much to be done. In particular, more attention needs to be devoted to the examination of contacts, and a second problem is efficient after-care for the patient whose disease has been arrested by effective treatment. The medical supervision of such a patient may be fully arranged for, but often his home surroundings and his work cannot be satisfactorily adjusted to his physical condition. One disturbing feature is the rise of mortality in the industrial areas of South Wales at the ages from adolescence up to 35 years. Many of the social and geographical features of coal-mining districts favour tuberculosis: such as the loss of sunlight in the deep and narrow valleys in which the villages are situated, the tendency to crowd in small rooms and halls, the lack of playing fields, and, sometimes, an unsuitable dietary.

The venereal diseases scheme has now been in operation for eighteen years. In syphilis it has been attended by a considerable measure of success. Careful inquiries show that the majority of persons infected with syphilis resort to treatment centres, so that the returns from these centres are strong evidence of the trend of the disease, and the 1933 figure for cases dealt with for the first time (21,525) was the lowest yet recorded. There is no evidence of decline in gonorrhoea, and the incidence is likely to remain unchanged until either a specific remedy is found for the disease or the proportion of infected women applying for treatment increases very materially.

New Outlook on the Cancer Problem

The number of deaths from cancer recorded last year was 28,837 for males and 32,735 for females. As compared with the previous year the death rate for males decreased from 1,495 to 1,490 per million living, and the rate for females rose from 1,524 to 1,559. Since 1920, the latest year in which the crude rates were modified as the result of war conditions, no similar instance of a fall in rate by comparison with the previous year has occurred for either sex.

Sir George Newman discusses the changing outlook in cancer prevention. It was a natural tendency when cancer became a subject of active experimental research to assume that such research would culminate in the discovery of some method of causation which would indicate a road to prevention. Opinion is moving away from this conception, in Sir George Newman's view, and it is now thought that the change in the character of the cells which have undergone malignant transformation is no more than a pathological, perhaps even a physiological, reaction to one or more of a wide variety of stimuli, more or less peculiar to the different organs affected. Such a change of conception brings about a definite alteration in the attitude towards measures of control. Previously it was thought wiser to await the result of research than to attempt measures of control which might be not only mistaken but wasteful. Now it is held that the hope of putting into application some general or universal method of prevention may have to be replaced by realization of the need for minute investigation of the abnormal conditions which precede or determine the emergence of cancer, conditions which probably differ widely in their nature for different organs of the body. The compiler of this report is alive to certain signs of discontent at the apparently negative character of the results of laboratory investigations for the solution of the cancer problem, as well as the comparative ineffectiveness of treatment on the mortality rate. Such an attitude of mind may easily be exaggerated. Laboratory research may not have discovered the "cause of cancer," but it has greatly contributed to a better understanding of the nature of the disease, and if the results of treatment are poor, at any rate it is encouraging to know that if conditions could be so modified that a majority, instead of a minority, of patients underwent treatment at an early stage, a higher curability rate would be secured. "Nevertheless, it is difficult to avoid receiving an impression of growing dissatisfaction with the rate of progress. . . . A similar feeling seems to be manifest abroad as well as at home." The future will probably reveal a tendency, says Sir George Newman, to concentrate more on clinical research. Incidentally this will give to national and regional radium centres a wider sphere of action. They might, by co-operating with voluntary and municipal hospitals and with practitioners, extend their functions to cover those of diagnostic centres and centres for research into all forms of treatment. The part played by local health authorities in the campaign against cancer is also likely to become even more important.

Voluntary and Municipal Hospitals

We began by mentioning Sir George Newman's reference to the general practitioner; we may close with his reference to the other great sphere of non-official medical service—perhaps the technical term should be "non-provided"—namely, the voluntary hospitals. He pleads again, with his customary eloquence, for co-operation between local authorities and the governing bodies and medical staffs of these hospitals. In most areas it should be possible, as it certainly would be advantageous, for the local authority and the voluntary hospital to agree on an arrangement whereby all patients requiring a particular form of treatment—especially treatment requiring expensive apparatus or materials or highly specialized skill—should be admitted to a particular hospital. "There is no reasonable cause of war between them [the municipal and voluntary hospitals]; there is cause only for marshalling them together for a joint war against disease."

[1] *British Medical Journal*, November 4th, 1933 (p. 817).

MENTAL DISORDERS IN 1933

NUMBERS UNDER CARE

The twentieth annual report, Part I, of the Board of Control for 1933[1] shows that on January 1st, 1934, the number of persons suffering from mental disorder notified as under care in England and Wales was 150,266. This number is an increase of 1,491 during the preceding twelve months, which may be compared with the increase of 2,079 during the year 1932, or with the average annual increase for the five years ended January 1st, 1934, of 1,636. Were this diminishing rate of increase an index to the incidence of mental disorders in the general population favourable deductions might be drawn, but, as the Board points out, the yearly increases are merely the excesses of admissions over the combined deaths and discharges. Moreover, the numbers of admissions are affected by the amount of accommodation available in public mental hospitals, so that in some areas, notably in Lancashire, the true increase is larger than the Board's figures indicate because so many patients in need of active treatment have had to be retained in public assistance institutions for want of beds in mental hospitals.

Nevertheless, the Board is able to say that while the total number under care can never be a true index of the incidence of mental disorder, "the relatively small increase during the year affords some indication that the strain under which many have suffered has not been reflected in any increase in the number of new cases." The last few words are of significance, for it is the number of new cases, or, to be more precise, the ratio to the general population of the first admissions to mental hospitals and other institutions receiving "mental" patients, which furnishes the nearest approach to a true index of the incidence of mental disorder. This matter is not discussed in the present report, probably for lack of detailed information by the Board as to the movements—that is, admissions, discharges, etc.—of persons suffering from mental disorders in public assistance institutions and municipal hospitals. It may be noted in passing, however, that excluding these—and, after all, the county and borough mental hospitals receive over 80 per cent. of the whole mental patients in the country—the first admissions during 1933 showed an actual decrease of 629, there being 19,976 as compared with 20,104 in 1932.

Of the total of 150,266 patients under care on January 1st, 66,475, or 44.2 per cent., were males, and 88,791, or 55.8 per cent., were females. As to class, 8,428 males and 6,567 females were private patients, 57,383 males and 76,999 females were rate-aided patients, and 664 males and 225 females were climinal patients. The distribution of the 150,266 under care was as follows: 123,977, or 82.5 per cent. of the whole, were in county and borough mental hospitals and 230 in other premises of the local authorities; 2,422 in registered hospitals; 2,862 in licensed houses; 266 in naval and military hospitals; 830 in Broadmoor Criminal Lunatic Asylum; forty-two only were recorded as in nursing homes; 339 in private single care; 4,132 in outdoor relief; and 15,166 in public assistance institutions and municipal general hospitals.

It is interesting to note that while the rate-aided patients increased during the year by 1,692, the private patients decreased by 196 and the criminal patients by five. This actual decrease in the number of private patients—not merely a decrease in the rate of admission, notwithstanding the considerable separate provision now made for private patients in county and borough mental hospitals and the much-reduced fees charged by hospitals and houses solely for private patients—is significant of the hard times through which the country has been passing.

Status of Patients

Turning to the status of the 150,266 patients, 3,194 were voluntary patients, 226 temporary, and 146,846 certified. Of the voluntary patients no fewer than 2,015 were in county and borough mental hospitals, and of these 1,845 belonged to the rate-aided class, showing that this part of the Mental Treatment Act promises well. In "other premises" of the local authorities there were 230 more voluntary patients; in registered hospitals, 478; in licensed houses, 424; in private single care, eight; and in naval and military hospitals, one. Strangely enough, in nursing homes—that is, in nursing homes approved under the Mental Treatment Act—there were only thirty-eight voluntary patients under care on the first day of the year. The report does not give any indication of the numbers of nursing homes approved under the Act.

Of the temporary patients, of whom fifty-seven were males and 169 females, forty-six males and 116 females were in county and borough mental hospitals, the remainder being distributed as to thirty-two in registered hospitals, twenty-eight in licensed houses, and four in nursing homes. These numbers are disappointingly small, and show that, from whatever reason, the section of the Mental Treatment Act concerning temporary patients is being very inadequately worked. Thus the direct admissions during the year 1933 were 25,659 (males, 11,439; females, 14,220) and the proportions per cent. of these admissions arranged according to status were as follows: certified, 78.7; voluntary, 19.2; temporary, 2.1. Commenting on the fact, the Board says:

> "Except in a few areas where special effort has been made the number of temporary patients in public mental hospitals remains disappointingly small. The total number of rate-aided temporary patients admitted during 1933 was 298. Private patients admitted on a temporary basis numbered ninety-nine. Excluding voluntary patients, the ratio of rate-aided to private patient admissions is ninety-seven to three. There is no reason whatever to suppose that the proportion of patients suitable for temporary treatment is any larger among private than among rate-aided patients. If the proportion of temporary admissions of rate-aided patients corresponded to the proportion among private patients, the total temporary admissions in the rate-aided class would have been approximately 3,280 instead of an actual total of 298. In other words, the non-volitional paying patient has about eleven times as good a chance of admission without certification as the rate-aided patient. An analysis of cases shows that only a fifth of the temporary admissions require to be certified subsequently, and it follows that in round figures 2,400 persons were certified in 1933 who might, if advantage had been taken of temporary treatment, have escaped certification altogether."

The report also shows that the procedure was not used in thirty-four of the county and borough mental hospitals, and was confined to less than 5 per cent. of the direct admissions in fifty-two hospitals, whereas at one or two named hospitals the proportions were from 10 to 17 per cent. and at one no less than 42 per cent.

Movements of Patients

Owing to the absence of detailed information concerning the movements in public assistance institutions, etc., particulars of the patients in such institutions are not included in the Board's report on admissions, discharges, deaths, etc. Bearing this in mind, the following extracts show that the direct admissions to mental hospitals (25,659) gave a ratio of admissions per 10,000 of the population of England and Wales (aged 16 and upwards) of 8.47 (males, 8.01; females, 8.87), a decrease on the previous year of 0.02. If the voluntary patients are discounted, the ratio of admissions is 6.83 per 10,000 of population.

During the year under review 14,920 patients (males, 6,254; females, 8,666) were discharged or departed from statutory care as recovered, relieved, or not improved. Of these, 8,520 were discharged as recovered, yielding a recovery rate, calculated on the direct admissions, of 33.2 per cent. (31.7 for males, 34.5 for females). Patients discharged as relieved numbered 5,103, and as not improved 1,297. Deaths during the year numbered 9,408 (males, 4,385; females, 5,023), giving a death rate, calculated on the average number daily resident (129,712), of 7.3 per cent. as compared with 7.6 for the previous year.

[1] The Twentieth Annual Report of the Board of Control for the Year 1933. Part I. 1934. London: H.M. Stationery Office. (2s. net.)

Accommodation

The report states that despite financial difficulties satisfactory progress has been made in the development of the mental health services, and so far as public mental hospitals are concerned the position has distinctly improved. The aggregate number of patients in excess of accommodation in these hospitals has fallen from 1,717 on January 1st, 1933, to 843 on the first day of 1934. To a considerable extent this improvement is due to the new Middlesex hospital at Shenley, to which patients began to be admitted on January 1st, 1933. But although in general the shortage of beds which two years ago caused grave anxiety has now been materially reduced, in particular areas there is still overcrowding.

Referring to the boarding out of patients from mental hospitals the report says that "though the number of patients suitable for boarding out is necessarily limited, probably not much more than 5 per cent. and certainly less than 10 per cent. of the total, we regret that more extended use is not made of a form of care which is economical. It saves capital expenditure, and, if the patients are wisely chosen, is beneficial to the patients, since it enables them to live a more normal life than is possible within the curtilage of a mental hospital." An experiment, we learn, is being made in East Suffolk in boarding out from the mental hospital. At the end of the first six months twenty-five patients, elderly women, some of whom had been in the mental hospital for over twenty years, were placed out in the care of sympathetic and capable women guardians. The experiment is still in its early phases, but the Board says that it has been shown beyond doubt that even patients who are thoroughly institutionalized do appreciate and respond to normal surroundings and home life, in which, with hardly any exception, they have rejoiced. This may very well be the beginning of a widespread movement in favour of a system the benefits of which, as a supplement to hospital treatment, resulting in an increase in happiness and health to patients, a lessening of the burden on the public, and the release of hospital accommodation for cases urgently in need of it, were emphasized in this *Journal* as long ago as 1905.

Out-patient Clinics

Of outstanding interest is the Board's report on the centres or clinics for the out-patient treatment of nervous and mental disorders, most of which have come into being since the passing of the Mental Treatment Act. While appreciating the valuable out-patient work of the mental hospitals themselves and at such centres as dispensaries and municipal offices, the Board describes the growth of clinics for the treatment of mental illness which form sections of the out-patient departments of general hospitals, and at which at least a share of the treatment is directed by members of the mental hospitals' staff. During the five years 1925–30, and excluding the London area, the twelve voluntary general hospitals thus linked to mental hospitals grew to twenty-five, and during the first year's working of the Mental Treatment Act thirty-five more were added. At the end of 1931 there were sixty-one general hospitals linked up for the purposes of out-patient treatment of mental illness with forty-nine mental hospitals, and at the close of 1933 there were eighty-five general hospitals linked up with sixty-seven mental hospitals. The methods and frequency of sessions vary in the different centres, and for this reason the report contains brief accounts of twelve separate clinics, their constitutions, attendances, and so on. It may be noted, however, still excluding London, that 10,000 cases were treated at these out-patient clinics during 1933, and that the attendances numbered 45,000. "Evidently," the Board continues, "another substantial step forward has been taken, and we believe that we have reached a stage at which adequate facilities for the out-patient treatment of nervous and mental diseases should properly be regarded as an essential and normal part of an area's mental health service."

Mental Deficiency in 1933

The mentally defective patients under care on January 1st, 1934, numbered 70,764 (males, 35,835; females, 34,929), giving a net increase for the year 1933 of 4,871, or for the ten years 1924–34 of 28,467. Included in these totals are the patients under statutory supervision, and those under guardianship or notified, who numbered 31,921 and 3,049 respectively.

The annual returns furnished by local authorities to the Board show that on January 1st, 1934, the number of defectives, whether "subject to be dealt with" or not, reported to these local authorities was 106,439, giving an increase over the preceding year's figures of 4,094. The growth in numbers and ratios to population in the defectives of whom the local authorities have taken cognizance during the decade 1924–34 is shown in a table, according to which the ratio per 1,000 of population has risen from 1.46 for the period 1924–6 to 2.65 for the period 1932–4.

This last ratio of 2.65 may be compared with the estimate of the Wood Committee of 4.52 per 1,000. Of the total number (106,439) reported to the local authorities, 78,438 (1.95 per 1,000) were reported as "subject to be dealt with," and of these 11,100 were in receipt of poor relief, including 4,018 receiving outdoor relief. This last fact is the subject of comment by the Board, which urges all local authorities to give the matter their serious consideration, since there are many reasons why financial help, if needed by mentally deficient persons, should be given through the mental deficiency rather than the public assistance committees.

The Board draws attention to a disquieting decrease in the number of children notified by local education authorities, and also to the fact that when mentally defective children leave ordinary schools (not special schools or classes) on attaining the age of 14 the local education authorities have no power to notify, while the mental deficiency authority has no power to act until the child is 16. There is thus a gap of two years to be bridged, possibly by amendment of the Act. It may be hazarded that the consequences of this hiatus would be much less serious if a common standard of "mental deficiency" were accepted by the two authorities.

The event of the year was the opening of the Hertfordshire colony for mental defectives at Cell Barnes with 600 beds. This is the second complete colony to be opened by a local authority, Hortham being the first. The actual cost of building (£299 a bed) is much below that of constructing a mental hospital. The total number of beds provided during the year was 2,254, and the Board says that steady progress is still being made in providing institutional accommodation for defectives.

Defectives in Mental Hospitals

For many years mental hospital authorities have hoped that the operation of the Mental Deficiency Act would result in the transference of mental defectives in mental hospitals to mental deficiency colonies or institutions, thus restoring considerable numbers of hospital beds to their proper or better uses. The results of an investigation into this matter at certain mental hospitals is therefore of much interest and importance. The mental hospitals were Barming Heath, Chartham, Cheddleton, Stafford, Burntwood, Suffolk, Ipswich, Bridgend, Cardiff, and Swansea. The examination of the patients, who were selected by the medical superintendent as prima facie defective, was carried out by two medical commissioners of the Board. In all 2,007, or 17 per cent. of the total number of patients in these hospitals, were examined individually. Of these 1,692, or 14 per cent., were found to be mentally defective. Obviously not all could be expected to be fit for transfer to care other than provided in mental hospitals. But this indication that at least 12 per cent. of the patients in mental hospitals are suitable for transfer to mental deficiency institutions undoubtedly has an important bearing on the provision of mental hospital accommodation throughout the country as a whole.

INTERNATIONAL HEALTH WORK

[From our Geneva Correspondent]

The praises of the Health Organization of the League of Nations have again been sung in the present Assembly. Delegates from a score of countries paid earnest tribute to the work done. The chorus was led by M. Borberg, Minister of Public Education for Denmark, who emphasized the important achievements in the field of biological standardization. The work of the second conference, held in London in June, he said, would be very useful to factories marketing vitamin products, as well as to the official laboratories engaged in inspection. The Commission on Biological Standardization, meeting in August in Copenhagen, had done some practical work by adopting for international use standard preparations and potency standards for the anti-gangrene, anti-pneumococcus, and anti-staphylococcus serums.

Rural Health Services

Dr. Broekhuisen, the South African Minister at The Hague, mentioned that next year a conference is to be held at Capetown to discuss sanitary and medical services in rural districts, the health of natives and organization of medical services on their behalf, protective measures against the introduction of yellow fever, and prophylactic measures against plague and other diseases. South Africa, he said, attached great importance to this conference, and hoped that it would be pan-African. Sir Homi Mehta, the Indian delegate, acclaimed the pan-African congress as of great interest to India, which had participated in a previous congress at Capetown, and Mr. G. H. Shakespeare, M.P., for the United Kingdom, promised the support of his Government. Mr. Shakespeare also mentioned the value of collective study tours, such as that made in Poland in 1933, and thanked the director of the Health Organization for having organized a tour which would shortly enable British doctors to study the construction and arrangements of hospitals in other countries.

The malariological course recently organized at the Institute of Malariology at Rome was mentioned by Senator Cavazzoni of Italy, and M. Raphael spoke of the help rendered by the Health Organization to Greece in reorganizing its health services. He mentioned that Dr. Norman White had given five years' service to that country, and said that his name would always be linked with the creation of the School of Health, of which he had been a director. Professor Djuvara, from Rumania, said that the Health Organization had carried out in his country a number of studies and inquiries of the greatest scientific and practical interest. He mentioned particularly a study of the comparative efficacy of synthetic remedies and of quinine in the treatment of malaria. The Health Committee had sent Dr. Akroyd to Rumania to study, in collaboration with the Rumanian authorities, the problem of pellagra, and this collaboration was already bearing fruit. An experimental research centre had been opened near Jassy, and a fall in the incidence of the disease had already been observed among the groups of populations subjected to experiment. From Czechoslovakia M. Kunzl-Jizersky bore witness to the co-operation of the Health Organization with his Government in endeavouring to raise the standard of public health in Slovakia and sub-Carpathian Russia.

General Tanczos, the Hungarian delegate, referred to the usefulness of the study of rural health services. Hungary was co-operating in inquiries concerning the possible effects of the economic depression on health and nutrition, the Home Office in that country proposing to carry out an inquiry into the state of nutrition of 1,000 families living in rural districts. Dr. Pedro de Alba of Mexico mentioned large sanitary undertakings in his country in the shape of waterworks and drainage schemes, in which useful advice had been forthcoming from the Health Organization ; and Dr. Chodzko, a former Minister of Health for Poland, emphasized the importance of the Epidemiological Bureau, and the great medical, social, and commercial value of accurate news of epidemics.

Then came the representative of the Irish Free State, who said that his Government had drawn up a programme on which it was necessary to obtain technical advice of the highest quality. It had accordingly appealed to the Health Organization, which at once made a study on the spot of the problem to be solved. At the present moment the public health authorities in the Free State and the Health Organization of the League were co-operating in framing a scheme of rural hospitalization, and there was every ground for hope that a scheme would be created which would later serve as a model for other countries. M. Jules Gautier of France congratulated Dr. Rajchman, the head of the International Health Organization, on the fact that the organization had remained intact and was even expanding, notwithstanding the decrease in its financial resources. Representatives of China, Venezuela, Canada, and other countries were similarly complimentary, and a resolution was unanimously carried noting with satisfaction that the Health Organization had ensured the continuity of its essential work, while adapting its activities in such a way as to take account of existing economic and financial conditions.

SMALL-POX IN 1933-4

The July–August issue of the *Epidemiological Report of the Health Section of the League of Nations* contains, as it did last year, an informative alphabetically arranged survey of the recent incidence and mortality of small-pox throughout the world.

Egypt, in which there were 5,697 cases with nearly 1,000 deaths, was one of the most important foci in Africa. The disease was not uniformly and simultaneously present in every province, but followed an independent course in each. In 1934 the disease showed a definite decline, the number of cases in May and June being about one-fifth of those reported during the same months of 1933. In Central and East Africa there was a progressive decline in the disease in Tanganyika Territory and Nyasaland, whereas in the Belgian Congo the number of cases rose considerably, although the mild form predominated. In Morocco the small-pox endemic has considerably declined, and in Algeria and Tunisia the number of cases remains extremely low. As regards America, small-pox is on the decline both in Canada and in the United States, where the disease is rare in the densely populated States of the north-east, relatively high in the centre and south, and highest in the States of the Pacific and mountain areas. In Mexico, though it is on the decline, small-pox still causes thousands of deaths each year. In Asia, British India, in which the number of cases recorded rose from 115,000 to 250,000 in 1933, continues to be the primary focus, the increase being due not to any severe local epidemic, but to general spread of the disease. In China small-pox was frequent at the ports, especially Canton, Shanghai, and Hong-Kong, in 1933, and increase in small-pox incidence also took place during the first part of 1933 in Manchuria, Chosen, and Japan. In Persia small-pox incidence was considerably lower in 1933 than in 1932, and in 1934 than in 1933.

In Europe the most important foci, as in the previous year, were Soviet Russia, where the disease was of a severe type, but showed a lower incidence in 1933 than in 1932 ; Spain, where there was a marked fall in the morbidity in 1933 as compared with previous years, and the disease is mainly of the mild type ; Portugal, where the mortality rate was 29.4 per cent. in 1933 ; and England and Wales, where only 631 cases were recorded in 1933, and 174 in the first six months of 1934. With the exception of an outbreak of variola major originating abroad, which caused twenty-four cases and three deaths at Blackburn between January and March, 1934, all the cases in England and Wales were of the mild type. As in the previous year, there were no cases in Australia, New Zealand, and the Pacific Islands in 1933 and the first half of 1934.

British Medical Journal

SATURDAY, OCTOBER 6th, 1934

ANTE-NATAL CARE AND OBSTETRIC DIPLOMAS

The recent discussion at the Bournemouth Meeting of the British Medical Association, on the results of ante-natal care, held jointly by the Sections of Obstetrics and Gynaecology and of Public Health,[1] rendered a public service by focusing attention not only upon the failure of ante-natal work to reduce maternal mortality but also upon the lack of order and of uniformity in this branch of obstetric service. Throughout the discussion there appeared to be tacit acceptance of the view that public health workers as well as obstetricians are deeply concerned with the problems for which a solution must be found before a national midwifery service can be organized on a durable and practical basis. The ideal that the mother should be under the care of the same individual medical attendant throughout pregnancy, labour, and lying-in received general acceptance ; nevertheless it is at present realized only in exceptional circumstances, apart from private practice. Even in teaching hospitals and in the chief maternity hospitals the ante-natal clinic is usually conducted by junior officers who are not in charge of wards. The municipal hospitals are mostly in similar case. The mother has passed through the hands of three medical attendants, or it may be three sets of attendants, when she finally reaches the combined infant welfare and post-natal clinic. It is clear that considerable rearrangement will be necessary if the ideal of continuous individual supervision is ever realized in hospital practice, and it is to be remembered that the number of women who enter hospital for their confinement is continually increasing.

Of equal importance to organization is the attitude and outlook of the medical attendant. During the Bournemouth discussion it was acutely observed by Dr. Ethel Cassie that " the obstetrician making himself responsible for ante-natal care should be as much a physician as a surgeon." The surgical bias which has in recent years been so much in evidence in obstetric teaching and practice is not an unalloyed benefit. Arising doubtless from the desire to apply surgical methods of antisepsis to midwifery, it has carried many of its adherents to the point of regarding the conduct of labour more and more as a surgical problem, to which surgical—that is, operative—methods can safely be applied. Herein lies apparently the most important cause of the great increase in recent years in the proportion of operative deliveries reported from all parts by obstetric writers. The too surgically minded obstetrician does not visualize midwifery as a branch of preventive medicine ; believing that he can safely cut his way through difficulties should they arise, the temptation to set little store by prevention is often irresistible. Nevertheless, it is undeniable that in ante-natal work a knowledge of medicine is of greater importance than the possession of surgical technique.

The ideal obstetrician, whether specialist or general practitioner, should be a man of wide and level outlook. There is something to be said for the view expressed at Bournemouth by Dr. G. F. Buchan that the obstetric service requires a new kind of specialist whose function would be " ante-natal care in its widest sense," the management of labour, and the " care of the mother and child for a period after birth." Specialists whose interest is divided, often very unequally, between gynaecology and midwifery, whose medicine has become rusty from disuse, and whose knowledge of the principles of infant care is elementary, are not fully equipped to take a controlling part in the ante-natal service of the country. This view was probably present in the minds of the advisers of the Society of Apothecaries of London when they established their mastership of midwifery, for they demanded evidence of post-graduate training not only in midwifery but also in infant management and in certain aspects of public health work ; and, further, they obtained the assistance of representatives of public health and of paediatrics, as well as obstetricians, in conducting their examination. The Apothecaries' Society, in short, foresaw the need for the type of specialist which Dr. Buchan adumbrates. It is to be regretted that the two other obstetrical diplomas which have been launched since the mastership of the Apothecaries depart more or less widely not only from their forerunner but also from one another. It is a disservice to have three specialist examinations in midwifery based upon different views as to the training required of those who aspire to be entrusted with responsibility in the obstetric service of the country. If the three bodies concerned could agree upon basic requirements and formulate a joint scheme, the position would be greatly simplified for those who desire recognition, not as specialists, but as practitioners well equipped to deal with responsible obstetric work.

[1] *British Medical Journal*, August 4th, pp. 193-201.

RESISTANCE TO INFECTIVE DISEASE

The science of genetics maintains a vigorous growth, and eugenics, as a social creed, does not lack prophets or disciples. No one, we may suppose, would seriously contemplate an attempt to deal with human disease in the foreseeable future by the elimination, along eugenic lines, of susceptible individuals, even if the laboratory worker had demonstrated beyond cavil that the adventure would be a hopeful one. But the same considerations do not hold in regard to our animal herds, from which man is so frequently infected. The breeding of a strain of cattle solidly immune to tuberculosis, or to bovine abortion, or to foot-and-mouth disease, might

be a project well worth serious consideration, if it could be shown to have any reasonable chance of success ; and the results already attained along these lines in the virus diseases of plants suggest that it would be unwise to dismiss such a line of attack as inherently impracticable. Whether we approach the problem from the purely scientific angle, or with utilitarian possibilities in view, the first step is clearly to consider the evidence, and, if it justifies no verdict one way or the other, to set about collecting data of a fuller and more reliable kind. An admirable monograph by Dr. A. Bradford Hill, published in the Special Report Series of the Medical Research Council,[1] goes far to fulfil the first of these requirements, and so to allow us to form a reasoned judgement on the problem as it now presents itself.

That one animal species differs from another in its resistance to a variety of pathogenic parasites has long been known, and there can be no reasonable doubt that individual differences in resistance within a single species are due, in some part at least, to differences in genetic make-up. The existence of heritable differences in immunity, and the possibility of developing by selective breeding a strain that has a resistance greater than the average to some particular bacterium or virus, may be safely assumed. The problems at issue, as Dr. Hill emphasizes, are to assess the degree of resistance attainable along these lines, to determine whether it operates specifically, so that each important infective disease must be regarded as a separate exercise in eugenics, or more widely, so that we might reasonably hope to develop strains that would be immune to many of the infections that plague their unselected fellows, and, in particular, to obtain some measure of the relative efficacy of genetic selection as compared with natural or artificial immunization.

To almost all the questions that he asks he has to return the verdict "non-proven." The experimental data, on which alone a sound judgement can be based, are in practice extremely difficult to obtain. The obvious experimental method is to infect an adequate sample of animals with the micro-organism under study and breed from the survivors, repeating this process in each succeeding generation ; and this is the line of procedure that has most commonly been followed. But it overlooks the awkward fact that the breeding stock is in this way infected *ab initio* with the organism concerned, and that congenital transmission of passive immunity from the infected does, and active immunization of their offspring by infections of varying severity, will be operative to an unpredictable degree. Several workers have simply ignored this difficulty, so that their conclusions are invalid. Others have striven to overcome it, sometimes with considerable success. Dr. Hill concludes that the more carefully planned experiments leave little doubt that a true genetic immunity can be developed, though the possibility of active immunization can seldom be excluded with complete certainty.

The grade of resistance that can be developed by selective breeding is, however, very difficult to assess. Several workers have listed as "resistant" animals whose only claim to that title was that they took rather longer to die of the test infection than unselected controls. Where the test has been the survival over a reasonably long period of a proportion of the infected animals the difference between the selected and unselected groups has often been small, though in a few instances it has been very large. Another puzzling feature of some of the records is the absence of an increasing resistance as one passes from one generation to the next through a long series of matings. It would appear, so far as these particular experiments are concerned, that a considerable increase in resistance in the first or second selected generation may be followed by no further improvement when the selective breeding is continued. In other instances the records show a continually falling mortality rate with increasing selection over a number of generations ; but there is no evidence that, by selective breeding, a strain can be developed that is uniformly resistant to infection, even when the test of resistance is a single injection of the bacterium under study in a dose that fails to kill 100 per cent. of the controls.

In regard to the question of specificity the evidence is still more conflicting. Certain observations have been interpreted as indicating a genetic immunity operating over so wide a range that it is effective against a pathogenic bacterium, such as the mouse-typhoid bacillus, and a poisonous metallic salt, such as mercuric chloride. But many other experiments have given results that accord ill with this view, and indeed it seems inherently improbable if it is generalized to include genetic immunity as a whole, though it is reasonable enough to suppose that some genetic factors may determine characters that increase resistance to a considerable variety of harmful agents. It is probable, as Dr. Hill points out, that a large number of factors are involved, and that some of these may act non-specifically while others may be specific in the strictest immunological sense. The determination of the genetic characteristics of an animal in relation to its susceptibility to infection is, indeed, never likely to be a simple problem, for the protective mechanisms employed by an animal host are multiple and diverse. But the fact that a problem is difficult does not mean that it is insoluble, or that its solution is not worth attempting, and the particular merit of Dr. Hill's review is that it points out clearly and in detail why it is that many workers have failed to get significant answers to the questions they have asked, or thought they were asking, and indicates the lines along which further experiments should proceed if significant data are to be obtained. The author and the Medical Research Council are to be congratulated on a valuable contribution to the literature of an intrinsically important subject.

[1] The Inheritance of Resistance to Bacterial Infection in Animal Species. Medical Research Council, Special Report Series, No. 196. London: H.M. Stationery Office. 1934. (1s. 3d. net.)

WHITHER MEDICINE?

Dr. Josef Loebel is of opinion that people complain that medicine is not progressing simply because it has progressed so rapidly that they themselves have been unable to keep pace. This is encouraging, and stimulates us to ask with him "Whither Medicine?"[1] Can we learn from the past what the future of medicine is likely to be? This Dr. Loebel has attempted to do in a semi-popular style.

Though Hippocrates converted medicine from a magical cult to a method of observation, magic would keep "breaking through" again and again. Largely this is because the sick man craves for magic as his far-off ancestors did, but partly it is because up to the nineteenth century the doctor had so little apparatus to aid his observation. He must have depended mainly on mother wit and shrewd intuition. His cures must have emanated chiefly from his own personality, as indeed they still do in some degree. Osler used to ask students by what means a patient suffering from cancer of the stomach might be induced to gain 20 lb. in weight, and had to supply the answer himself: "The only way of working the miracle is to have an optimistic doctor." With the introduction of cellular pathology, humours and diatheses were relegated to the limbo of superstition. Virchow declared that "there is no such thing as a sick body that is disordered in all its parts. I maintain that no doctor can systematically think of a morbid process unless he is able to assign to it a place in the body." The part became for him greater than the whole. But with the discoveries of serology and endocrinology, humoral pathology and diatheses came creeping back, though with new and more scientific attributes. The individual again began to count for something. As Dr. Bernard Hart has said, he was no longer regarded as "the uninteresting vehicle of a fascinating disease process." Still more did this become true when "the breach was made in the Great Wall of psychology by doctors." One might claim, though the claim would be fiercely resisted in academic quarters, that psychology has gained as much from medicine as medicine has from psychology. Yet it is true that the dualism of mind and body has broken down under the assaults of psychologically minded physicians, and disease and unhappiness alike can be seen as the resultant of forces in the individual and his environment. The psychiatrist and the biochemist can find a common meeting ground in the fact—long suspected, but now, as a result of Sir Henry Dale's work, capable of being enunciated as a general law—that all nervous mechanisms produce their effect through the intermediary of chemical substances. This new synthesis of mind and body, this conception of the individual as a dynamic entity, is the outstanding achievement of twentieth century medicine, and will greatly influence its future.

These are reflections aroused by Dr. Loebel's book rather than a paraphrase of its contents, though we have quoted some salient passages. The author has evidently enjoyed writing it, and succeeds in conveying that enjoyment to the reader. His enthusiasm for his subject makes one lenient towards the somewhat journalistic manner in which he presents his case; but it is a pity that he has allowed certain inaccuracies to creep in. Thus artificial pneumothorax is not an adaptation of war-time gassing, nor does a good climate depend on the air containing plenty of oxygen. The oestrogenic substance in coal did not get there thousands of years ago from the bodies of women—the coal measures are older than Eve. It is not correct to say that the importance of the parathyroid glands has not been discovered at all yet. Do any morphologists to-day regard the invertebrate nervous system as surviving in the sympathetic nervous system alone? Scrotal secretion is not a happy description of the treatment Brown-Séquard employed on himself, and one can hardly agree that St. Francis of Assisi was "gloomy by temperament." When Dr. Loebel quotes the late C. B. Lockwood as saying "that it was unnecessary for a surgeon to clean his nails before operation, because a gentleman does that sort of thing at home," we fear that he was misled by Lockwood's sardonic humour in taking this as evidence that he was opposed to antisepsis. For it is certain that he made a practice of having cultures taken from clippings of the nails of all those whose hands came into the operation area, and was a convinced advocate of a rigid aseptic technique.

[1] *Whither Medicine?* By Dr. Med. Josef Loebel. Translated from the original German by L. Marie Sieveking and Ian Morrow. London: Sidgwick and Jackson Ltd. (7s. 6d. net.)

RADIOLOGISTS AND HOSPITALS

In the *American Journal of Roentgenology* for July there is an important editorial article dealing with the position of radiologists, and incidentally with that of clinical pathologists, in relation to hospitals. It contains a clear statement of the principles that should govern those relationships, and may usefully be compared with the two appendices, G and H, in the Hospital Policy of the British Medical Association, which are concerned with the same matters. Hospital developments in America, and, in general, developments of what is called the "corporate practice of medicine," are not on exactly the same lines as those in this country; but there can be no difference in the principles in accordance with which progress should be guided and encouraged. The enunciation of these principles and the statement of the methods by which they should be carried into effect in connexion with radiology and chemical pathology were found by the Hospital Committee and the Council of the B.M.A. to be matters of great difficulty. Their consideration occupied much time over a period of several years, though ultimately the paragraphs of the appendices above mentioned were generally agreed to and have, in fact, so far as they have become operative, worked reasonably well. No doubt before very long they will be the subject of revision and may be found to require modification, and in this connexion a clear statement of the American position and a careful study of American experience will prove of value. The exploitation of service in the two fields under considera-

tion, whether as commercial ventures by business organizations, or by universities, hospital boards, and local authorities, is a real danger both to the legitimate development of private practice in these directions and to the independent and scientific status of radiologists and pathologists as members of the staffs of hospitals. As the article under notice says: "We have a right to expect the entire profession to uphold the pathologist and radiologist in their efforts to remain free practitioners of medicine. Any other course can result only in damage to both the profession and the public"; and again: "That other branches of the profession now feel comparatively safe is no reason why they should remain inert or actually assist hospital corporations to take over and control these particular specialties." Alarm is expressed in the article at a recent proposal to separate the technical aspects of radiology from its professional aspects, the hospital being responsible for all that pertains to technique and making an appropriate charge therefor, while the medical radiologist charges his fee for his professional services. Surely, however, as a financial arrangement there can be no fundamental objection to such a method. It is, of course, true that the technical part of the work is essential to the success both of the radiologist and of the pathologist, and that this has been brought to its present state of development only by constant interest and attention; but the essential thing to be safeguarded is that the professional standing of the head of the department should be fully recognized and his complete control over the working of his department guaranteed.

NEW DRUGS FOR OLD

The annual report of the American Medical Association's Council on Pharmacy and Chemistry,[1] to which we referred on August 4th (p. 217), is of interest, since it provides a convenient summary of recent advances in proprietary drugs. Advertisements of these drugs descend upon the doctor's breakfast table with the steady persistence of falling snow, and most of the recipients must wonder from time to time what real therapeutic advance is represented by all this activity. The A.M.A. publishes annually a volume entitled *New and Non-Official Remedies*, and preparations are only admitted to its pages if they comply with certain simple though searching requirements. Some of the chief specifications are that there must be no secrecy associated with the preparation; it must represent a genuine therapeutic advance, and the claims made for it must be reasonable and supported by adequate evidence. These rules are well known, and hence only preparations of a certain standing are likely to be submitted to the council which has the duty of deciding their fate. An analysis of the table of contents of the report makes interesting reading. It was decided to admit in future antipneumococcus sera containing Type II antibodies, which had been omitted in 1924, judgement was suspended on six articles, and about fifty others were declared non-acceptable. At the same time it was decided to omit ten articles that had been accepted in previous years. This summary suggests pessimistic conclusions regarding the probable value of new proprietary preparations. It must be mentioned, however, that the group on which judgement was suspended is important, since it includes the oestrogenic hormones, dilaudid and fuadin. The A.M.A. report states the results of an impartial but critical estimate of the value of a large sample batch of new proprietary articles, and these findings suggest that the odds against such an article representing a serious therapeutic advance are somewhere about 100 to 1.

[1] American Medical Association, 535, North Dearborn Street, Chicago, 1934.

CEREBRAL CORTEX AND GASTRO-INTESTINAL MOTILITY

The localization of the cortical areas controlling peripheral functions and activities always presents a fascinating problem to the neurologist and physiologist. Whereas, however, our knowledge of the cortical representation of motor and sensory functions associated with the cerebro-spinal nervous system is very extensive, it is much less so in the matter of the autonomic system. Much has been done in tracing controlling centres of autonomic function in the region of the hypothalamus, but cortical representation is still only vaguely understood. The matter of cortical control of intestinal movements has recently been reopened by Watts and Fulton.[1] In their article these authors give a short but interesting account of former work in this field. As long ago as 1876 Bochefontaine found that electrical stimulation in the region of the dog's sigmoid gyrus usually diminished or completely inhibited gastric rhythm, but sometimes this inhibition was preceded by strong peristaltic movements. These results seem to indicate that there are both motor and inhibitory cortical points for the stomach. Later work by Hlasko also gave evidence of inhibitory points in the cortex, and, in addition, he obtained contraction of the stomach wall by stimulation in the region of the corpora quadrigemina. Several workers have found that decerebration posterior to the thalami produces very active peristalsis in the cat's intestine, again indicating the probable existence of inhibitory control in the cortical regions (the question of irritation through the section could be ruled out). In 1888 Pal and Berggrün observed that stimulation of the vagus produced contraction of the pylorus but only slight peristalsis of the small intestine; on cutting through the medulla and then stimulating the vagi, vigorous intestinal peristalsis occurred even when, as we now know, the irritation from the transection had certainly passed off; indeed, the authors state that stimulation of the vagi immediately after the transection did not lead to a positive result, which they interpreted as due to irritation of the inhibitory fibres. The inhibitory influences could also be removed by section through or anterior to the thalami or by extirpation of the sigmoid gyri. This and other work made it probable that the cortex was mainly concerned with inhibition of the gut movements. Watts and Fulton were led to a consideration of the problem from the fact that routine post-mortem examination of a series of monkeys which had been subjected to various brain operations revealed an usually high incidence of intussusception. Three healthy monkeys died with intussusception and obstruction after bilateral removal of the anterior portion of the pre-motor cortex: the incidence of intussusception in unoperated monkeys was

[1] *New England Journ. Med.*, April 26th, 1934.

two out of 300 necropsies. Faradic stimulation of the pre-motor cortex led to active intestinal peristalsis, and in some cases to well-marked multiple intussusceptions. Intermittent stimulation of the same cortical region over a period of several hours also resulted in intussusception. Application of the stimulating electrodes to the motor cortex itself led, of course, to vigorous muscular responses but did not influence the intestinal movements, a common observation and one readily to be inferred from the fact that cortical centres for the gut have not been previously localized. The more or less reciprocal functions of the gut wall and the sphincters were demonstrated in that pre-motor stimulation at certain points relaxed the stomach sphincters. Section of the vagi prevented the formation of intussusception during pre-motor stimulation, but *some* increase in peristalsis still occurred—a point of very considerable interest. Thus these workers demonstrate that intussusception may result both from removal of the pre-motor cortex and from stimulation of this area. The conclusion seems justified, therefore, that the gut has autonomic representation in this part of the cortex, and that this representation includes both excitatory and inhibitory components. The pathways of excitation and inhibition have not yet been worked out, but the classical view of the vagi and the splanchnics is not likely to be assailed. What may accrue is the existence of additional pathways and possibly association paths between the higher centres and the intestinal centres. Perhaps even some explanation on anatomico-pathological grounds will be forthcoming of the extraordinary restriction of intussusception to children of less than 5 years and its much greater frequency in males.

WELFARE OF THE BLIND

The eleventh report of the Advisory Committee on the Welfare of the Blind to the Minister of Health deals with the year 1933–4.[1] The number of blind persons in receipt of pensions under the Act of 1920 shows a steady increase from year to year, and the cost of these pensions is now £553,000 per annum. Reference is again made to the need for securing, before a person's name is added to the register, an examination by a medical practitioner with special experience in ophthalmology, and by him certified to be blind within the meaning of the Blind Persons Act. So far, as a result of representations by the Minister, thirty county councils and sixty-seven county borough councils have made provision for expert examination before registration, and it is understood that thirty-eight others follow the same practice. The supervision of the work done for the blind is now in the hands of the local authorities under the Act of 1929. Before the coming into operation of that Act the inspectors of the Ministry were responsible for systematic inspection of the work of the voluntary associations. The local authorities must now satisfy themselves as to the efficiency of the services towards the cost of which they have to contribute. In many cases an officer of the local authority exercises the supervision. In the area of the Northern Counties Association a regional supervisor appointed by that body is acting for nearly all the local authorities. This officer is engaged upon a detailed inquiry into the administration of the work of the voluntary associations, drawing attention to any defects and making recommendations for improvement to the appropriate local authority. By this means the local authorities of the area obtain the advice of a specialist in supervising their services for the welfare of the blind. The register of the blind showed a total on March 31st, 1932, of 62,079. At the same date 1933, the figure was 63,408, of whom 244 were under 5 years of age and 2,089 between the ages of 5 and 16 years. The increase is in the later adult years.

[1] London: H.M. Stationery Office. 1934. (4d.)

INDUSTRIAL HEALTH RESEARCH

The fourteenth annual report of the Industrial Health Research Board[1] indicates that steady progress is being made in most of the lines of investigation described in previous reports, but it is pointed out in the introduction that in the Board's work more stress is now being laid on problems of health and mental fatigue, while researches relating to the physical fatigue induced by the expenditure of excessive muscular energy in heavy industries are less prominent. In order to make adequate studies of the kind of ill-health to which the workers in various occupations are liable, it is important to obtain physiological data about the normal physical fitness of the population. This is by no means easy. The workers are apt to object to examination, as they are afraid that the discovery of physical unfitness may lead to dismissal or to reduction of compensation under the Workmen's Compensation Act. Again, the sickness-recording systems under the National Health Insurance Act leave much to be desired from the point of view of the scientific worker. The numerous approved societies frequently do not know the occupations of their members nor the factories where they are employed. Nevertheless, it has been found possible to get reliable data in certain specific instances in the cotton and printing industries, while inquiries are now in progress into the alleged high incidence of gastric disorders among bus drivers, and of the effect of dust inhalation on haematite ore workers. An extensive survey of the physique of women has already been published, and one on the height, weight, and strength of a group of 10,000 men—including a sample of unemployed—has now been completed. The investigations on mental fatigue include extensive inquiries into the factors producing contentment and efficiency in women engaged on repetition work, with special reference to the reactions of character and temperament to the boredom entailed by such work. A large number of workers engaged in continuous production on conveyors have been observed, and have been tested by individual interview. Boys leaving school, Royal Air Force apprentices, and men in the Royal Corps of Signals and other branches of the Defence Services have been examined from the point of view of vocational suitability, and it has been possible to collect much valuable knowledge concerning the effect of psychological reactions on occupational efficiency. The work previously done on accident proneness has led to requests being made for the application of the tests to motor drivers, who are now being

[1] Medical Research Council. Fourteenth Annual Report of the Industrial Health Research Board, to June 30th, 1934. London: H.M. Stationery Office. 1934. (9d. net.)

submitted to these tests in three large transport companies and in two branches of the Army employing lorry drivers. A study of environmental conditions shows that good lighting has a marked influence on the output even of workers engaged in occupations such as tile-pressing, which make little demand on visual capacity. The effects of noise have been investigated in two groups of weavers over a period of twelve months, and it was found that the performance of the group wearing ear-defenders was appreciably better than that of the control group. Work on the physiology of heating and ventilation includes determinations of the best methods for measuring skin temperature and radiant heat.

SUBCUTANEOUS HAEMOSTASIS IN OPERATIONS

J. Riese,[1] noticing that vessels in the skin and superficial fascia which have been divided in a surgical incision soon cease to bleed if left undisturbed, and that in such a case the healing of the wound is particularly good, recommends that these vessels should not be injured by the customary ligature, suture, or clamping. By such avoidance of tissue trauma he has reduced the percentage incidence of pus formation in the operation wound from 4 to 0.7 per cent. At the same time his proportion of post-operative haematomata increased from 4.5 to 5.5 per cent., but Riese regards haematoma formation as tending to prevent rather than favour infection. Severe bleeding after operation was noted only once in over 2,000 cases treated without artificial subcutaneous haemostasis, and in this instance came from the inferior epigastric artery. With the same purpose of avoiding injury to the tissues, Riese has abandoned the firm bandaging of wounds, and makes minimal use of drainage (except after pleural and thyroid operations). A large haematoma is punctured laterally to the suture line, or if it has opened spontaneously it is emptied and the surfaces at the place of perforation are resewn.

GORDON MEMORIAL COLLEGE, KHARTUM

The latest report of the manifold activities of the Gordon Memorial College at Khartum reflects the great progress made in 1933. Of more special medical interest is the account of the work carried on at the associated Wellcome Tropical Research Laboratories. Facilities granted to the bacteriological section for conducting all the post-mortem examinations in the Khartum Civil Hospital have resulted in further additions of valuable pathological material to the museum, the training potentialities of which have thus been enhanced. It will be recalled that the college is run on secondary school lines, with emphasis on medical and scientific training, and in co-ordination with the local medical curriculum. The museum has now a collection which is fairly representative of most of the tropical and other diseases occurring in the Sudan. The exhibits have been catalogued with descriptive clinical and pathological data, and are proving valuable for the teaching of pathology. Owing to financial stringency the malarial investigations in the Gezira had to be terminated last March. Work already done has established the danger of borrow pits in villages as primary breeding places of the malaria-carrying mosquito during the rains, and its preference for the sunlit collections of waters in the Abu Isherin and Abu Sitta canals, and less frequently in the dawrans at later periods of the year. Dissections of adult female mosquitos collected near native habitations showed 2 per cent. infected during the most malarious months. Children up to the age of 12 appear to be the main reservoirs of infection, and represent 75 per cent. of the gametocyte carriers in the district. Another series of tests, continued for a year, showed that there was a seasonal period of a few months for the presence of gametocytes in the blood. This important observation requires checking by future investigations, since it indicates a possible line of control by intensive gametocyte therapy during those few months. Sufficient data have also been collected for the publication of a paper on the epidemiology and endemiology of bilharziasis in the Sudan. Ample proof was forthcoming that the canals in Egypt maintain their own constant supply of molluscs, and thus negative the view constantly expressed in the Egyptian press, that the Sudan is responsible for the spread of bilharziasis in Egypt. Berries of the tree *Balanites aegyptica* have been found useful for destroying these molluscs, which are carrier hosts of bilharzia; they can also be employed for the elimination of the water-flea cyclops, which is the carrier of guinea-worm. Other local trees and shrubs probably possess active principles of medicinal or commercial value. Chloramine in a strength of 2.6 parts per million killed bilharzia molluscs in twenty-four hours; a weaker solution of 1.3 parts per million destroyed cyclops in six hours. These dilutions had no effect on mosquito pupae. The College administration was altered during the year to improve the teaching and research from the lowest classes up to the allied Kitchener School of Medicine.

[1] *Zentralbl. f. Chir.*, June 9th, 1934, p. 1342.

By an Order of the Committee of Privy Council, made after consultation with the Medical Research Council, and with the President of the Royal Society, Professor A. J. Clark, M.D., F.R.S. (Professor of Materia Medica in the University of Edinburgh), and Professor J. C. G. Ledingham, M.D., F.R.S. (Director of the Lister Institute of Preventive Medicine, and Professor of Bacteriology in the University of London), are appointed members of the Medical Research Council in succession to Sir Charles Sherrington, M.D., F.R.S., and Dr. A. J. Arkwright, F.R.S., who retired in rotation on September 30th.

Lord Macmillan of Aberfeldy has been appointed a trustee of the Beit Memorial Fellowships for Medical Research in place of the late Sir James Kingston Fowler. The other trustees are: Sir Alfred Beit, Bt., the Right Hon. W. Ormsby Gore, M.P., the Earl of Onslow, Lord Rayleigh, F.R.S., Dr. Edwin Deller, Principal of the University of London, and Sir John Rose Bradford, Bt., M.D.

The Annual Conference of Representatives of Local Medical and Panel Committees will be held on Thursday, October 18th (and, if necessary, Friday, the 19th), in the Great Hall of the British Medical Association's House, Tavistock Square, London.

OPENING OF NEW SESSION: AUTUMN DINNERS

ST. THOMAS'S HOSPITAL

About 150 past and present students of St. Thomas's Hospital and other guests attended the annual dinner at Dorchester Hotel on September 28th. The chair was taken by Dr. W. L. Wainwright, who, in proposing the health of the hospital and medical school, referred to the changing conditions of medical practice, and to the likelihood that in future no medical man would work as an independent unit, but only as a member of a group. He also commiserated present-day students on the complexity of medical training. When he himself was a student there were only about two textbooks on medicine: what they said was gospel, and what they did not say did not matter to anybody! To-day things were done much better scientifically, but the students did not have such a good time as their predecessors.

Sir Arthur Stanley, treasurer of the hospital, referred to the reconstruction of the out-patient department, which, he said, was proceeding according to plan. Half of it had been completed, and in addition to the dispensary and the hall, the medical examination rooms had been opened during the past few months. The remainder of the work was going forward, and he hoped that by August of next year, or even before then, it would be possible to arrange a formal opening of the whole of the out-patient department, which, instead of being like the old department a disgrace to a modern hospital, would be an object of pride to all associated with St. Thomas's. This work had been made possible by a gift of £20,000 made many years ago by the father of the chairman. By the time it could be used the sum had been more than doubled, and then, the money having been invested in Local Loans, the Government conversion scheme enhanced its value by about 30 per cent., and it was possible to undertake the work without incurring further debt. The reconditioning of the wards was also being carried out, and only two blocks now remained to be done. Another important matter to which attention was being given was the improvement of the accommodation and comfort at College House.

Professor Leonard S. Dudgeon, dean of the medical school, mentioned that a scheme had been mooted for building a new medical school for St. Thomas's on the other side of the road, together with a new out-patient department, at a cost of something like a million had the work been carried out in its entirety. Fortunately, in his view, the unsettled state of affairs generally had prevented that scheme from maturing, and the school remained where it was, and the improvements to the hospital had been carried out as indicated. St. Thomas's was benefiting from the liaison between the voluntary and municipal hospitals, and had arrangements with the council hospitals at Lambeth and at Wandsworth. Speaking of the losses by death which the school had sustained during the year, Professor Dudgeon referred specially to the death of Sir George Makins and to the memorial that had been installed in his memory. Some criticisms had been made of the bust, but he thought it succeeded in representing Sir George, as they wanted to remember him, exactly as he was in life. After referring to other bereavements and to changes due to more pleasant causes Professor Dudgeon went on to remark that one of the greatest achievements in the medical school world of London for many years was the co-operation now taking effect between the great medical schools of Guy's, St. Bartholomew's, and St. Thomas's. There now existed an executive committee formed of five members from each school; co-operation on the clinical side was actually taking place between St. Bartholomew's and St. Thomas's, and probably within a year or a little longer Guy's would join in. He concluded by toasting the health of the guests, to which Mr. W. Girling Ball, dean of St. Bartholomew's, responded, and remarked that the co-operation between the three medical schools referred to was bound to succeed in view of the personality of their respective deans. The health of the Chairman was proposed by Sir Cuthbert Wallace, and the Chairman's brief reply closed a very pleasant evening.

MIDDLESEX HOSPITAL

The annual dinner of the Middlesex Hospital Medical School was held at the Savoy Hotel on October 1st, when Dr. E. A. Cockayne presided over a company numbering three hundred. The Chairman gave some account of the rebuilding of the hospital and school. When the past and present students assembled a year ago, he said, the west wing of the building was built and occupied, but the site of the crosspiece and the east wing was a yawning pit surmounted by girders. The girders had now been clothed with stone, and the whole building had been roofed over. The completion of the rebuilding programme was in sight; it was expected to raise the outstanding sum of between £80,000 and £90,000 before the end of the year, the final contracts had been signed, and he hoped that his successor in the chair on the next occasion would be able to announce that the whole of the "new Middlesex" was functioning. A generous gift from Lord Woolavington had made it possible to proceed with the paying patients' block, for the accommodation of people unable to meet the heavy costs of a private nursing home and too well off to occupy fittingly the beds dedicated to the poor. This paying block was opened early in the present year, and had proved an unqualified success. Last year Mr. Collins had given the large sum of £30,000 for an *x*-ray diagnostic department. Plans for this new department had been carefully drawn up, and he believed that in equipment it would be second to none in this country, or perhaps the world. Then Mr. S. A. Courtauld, who had been one of the great benefactors of Middlesex in the past, had crowned his long series of gifts by one of £15,000 for fitting up the first portion of the crosspiece of the new hospital as a unit for clinical research. This would be a new departure in hospital practice, and he believed that Middlesex would lead a way along which many others would follow. Here the professors of biochemistry and pathology would keep in close touch with members of the honorary staff. Another generous gift was that of Mr. Meyerstein, who had given over £30,000 for the provision of a unit or department of *x*-ray therapy, to complement the diagnostic unit. The new clinical theatre, which would be of the greatest value to the school, would be completed early in the new year; the department of *x*-ray diagnosis would be ready by February or March, and the department of *x*-ray therapy before the summer.

Mr. S. A. Courtauld, chairman of the school council, spoke of the admirable character of the lay-out in the paying patients' block. Two near relatives of his own had been patients, and had told him how delighted they were with what was provided. With regard to the research unit, for which he himself was partly responsible, the conception was not his own, but it appealed strongly to him because it would bring the actual personnel of the scientific staff of the medical school almost to the bedside of the patient. The clinic ought to be in operation this side of Christmas.

Dr. H. E. A. Boldero, dean of the school, said that the numbers entering were almost an embarrassment, and many would-be students had had to be disappointed this year. He added some further details about the clinical research unit, which would give Professors McIntosh, Dodds, and Wright a share in the treatment of certain patients, directly in co-operation with, and equal in

responsibility to, the staff of the hospital. The unit was laid out in six smallish wards, of a size that would be considered luxurious for one, comfortable for two, perhaps a little crowded for three, and it was thought that six such wards would allow of adaptation to future developments. The new clinical lecture theatre would have accommodation for 100, or, at a push, 120. He mentioned that more than fifty old Middlesex men had this year attended a refresher course.

A further response to the toast was made by Mr. P. H. Newman, senior Broderip scholar; after which Mr. A. E. Webb-Johnson proposed the health of the many guests, who included the mayors of Marylebone and St. Pancras, the Regius Professors of Oxford and Cambridge, and representatives of London University, of various medical services, and of the Press. Sir Farquhar Buzzard made a brief reply in humorous vein, and the health of the Chairman was proposed by Dr. R. A. Young.

CHARING CROSS HOSPITAL MEDICAL SCHOOL

The annual dinner of the Charing Cross Hospital Medical School was held at the Café Royal on September 29th, when Mr. J. Bright Banister was in the chair. A pleasant informality of proceedings was observed throughout the evening, the absence of an official toast list, by the forethought of the dean, facilitating the digestion of an excellent dinner.

Mr. Bright Banister briefly recorded the events of the medical school during the past year. They had had the misfortune, he said, to lose two valued members of the staff in Dr. E. D. Macnamara and Dr. C. W. Hutt, whose death they deeply deplored. The ophthalmological department had been revivified by the appointment to the staff of Mr. Montague Hine. Charing Cross has spread its fame abroad, for Dr. Gordon Holmes was at present lecturing in Canada, and Dr. Hickling had been on an educative mission to New York. Mr. Banister reminded his audience that this was the centenary year of the hospital, and to celebrate this the medical school had acquired a coat of arms. Mr. Eric Crook, the dean, said that he thought a big toast list prevented people from renewing old friendships, which was one of the chief reasons for holding an annual hospital dinner. After Mr. Norman Lake had described the coat of arms in terms of gules and bezants, Dr. Watts Eden, Mr. Charles Gibbs, Dr. William Hunter, and Dr. David Forsyth were prevailed upon by a minority opposition to the "no speeches" decision to make a few remarks.

The reunion, so well begun, was continued into the early hours of the morning at the medical school, where dancing was in progress.

UNIVERSITY OF LONDON MEDICAL GRADUATES SOCIETY

The autumn extra-metropolitan dinner was held on September 28th at Queens' College, Cambridge, by kind permission of the President and Fellows of the College. The president of the society, Mr. W. McAdam Eccles, occupied the chair, and among others present were the President of Queens' and Mrs. Venn; the President of the Royal Society, Sir Gowland Hopkins; Sir Leonard Rogers, K.C.S.I.; Lady Barrett, Sir Charlton and Lady Briscoe, Dr. Vincent Dickinson, Dr. Dorothy Hare, Dr. Drummond Robinson, Dr. Kenneth Soltau, Miss Ida Mann, Dr. Harold Pritchard, and Mr. Musgrave Woodman.

The society, which was founded in 1928, has now 548 members, of whom fifty-four are over-seas. Mr. Eccles thought that the fact of a life subscription of only £1 was a distinct attraction. He hoped that members would induce other medical graduates to join at an early date. He further said that in the world tour which he hoped to make next year in connexion with the British Medical Association Meeting in Melbourne he intended to try to see every medical graduate of the University of London at each of the ports at which he called.

In proposing the toast of "The Guests," Mr. McAdam Eccles alluded to the great honour which had recently been conferred on Sir Gowland Hopkins—that of the Albert Medal of the Royal Society of Arts, thus linking the name of the "President of the Royal Society" with such illustrious names as those of Faraday, Kelvin, Lister, Rayleigh, and Rutherford. Sir Gowland Hopkins, in a very apt reply, pointed out that the laboratory worker should not be looked upon as one divorced from the clinician, and that as it was difficult in the ward to carry out control experiments the laboratory was of real value. All present enjoyed the sound sense coupled with the humour of his speech. The President of the society, in proposing the health of the President of Queens' College and Mrs. Venn, referred to the long and close connexion of the family of Dr. J. A. Venn with Cambridge and Queens', no fewer than three members having been Fellows of that College, and one a Fellow of Caius. Dr. Venn, in reply, pointed out that any one college having distinction in being associated more with one faculty than another was dying out, and that Queens' now had quite its share of medical graduates. A very pleasant evening closed by many present having the privilege of seeing the beautiful gallery in the President's lodge.

All communications relating to the society should be addressed to the honorary secretaries, U.L.M.G. Society, at 11, Chandos Street, Cavendish Square, W.1.

ST. MARY'S HOSPITAL MEDICAL SCHOOL

The annual dinner of the past and present students of St. Mary's Hospital was held on September 29th in the library of the new medical school, with Dr. P. Montague Smith, senior physician to the Princess Louise Kensington Hospital for Children, in the chair. Previous dinners had been held in restaurants, and the less formal and more intimate atmosphere of the function this year was warmly welcomed and reflected in the speeches. It was agreed that it was desirable to hold future dinners in the medical school.

After the loyal toasts Mr. Duncan Fitzwilliams, senior surgeon to the hospital, proposed the health of the Chairman in a racy biographical speech, which combined familiarity with esteem. In his reply Dr. Montague Smith extended a welcome to the guests, who included the Vice-Chancellor of the University of London and the Mayor of Paddington, and recalled the names and fame of past celebrities of St. Mary's. He passed to an appreciation of more recent outstanding members and benefactors of the hospital, paying a warm tribute to the great services of Dr. C. M. Wilson, dean of the medical school, whose name he coupled with the toast of "Prosperity to the School." Dr. Wilson, responding, referred to the triumph of endeavour, which had been crowned when the King last autumn had opened the new medical school. He described how, since the war, increasing efforts had been made to secure that the entry to the medical school should become more and more selective, while the advantages to students, rendered possible by the rebuilding operations, should be intensified. Referring to the athletic triumphs of the previous year, including the winning of the two Rugby and two cricket cups, he concluded with a comment on the value of athletic achievement in the medical curriculum.

After the dinner visits were paid to the large swimming bath beneath the library, the squash court, and other parts of the premises. It was thus shown that a great amount of recreational facilities could be enjoyed by the students and resident medical staff of St. Mary's without leaving the precincts of the hospital.

CHARTERED SOCIETY OF MASSAGE AND MEDICAL GYMNASTICS

The sixth annual dinner of the Chartered Society of Massage and Medical Gymnastics was held at the Café Royal, London, on September 26th, when Mr. R. C. Elmslie presided over a very large attendance of members and guests.

Dr. A. H. Douthwaite, in proposing the health of the Chartered Society, said that in its earlier years it was, though enthusiastic, small, and received very little support from outside. The war brought about an appreciation of the value of massage, the demand for masseurs and masseuses increased, and with it the supply, perhaps in excess of the demand. By 1920 the society had a membership of 3,000; it then amalgamated with the Manchester society, and at the present time its membership stood at 9,000. The medical profession, said Dr. Douthwaite, had not always recognized the value of the masseur and the masseuse in helping to restore patients to health, and one of the indirect results of what might be termed "the apathy of the medical profession in this matter" was that the osteopath and similar practitioners had flourished exceedingly. The position was now fast improving, and, thanks to the growing appreciation of the medical profession, there was an increasing demand for the services of the members of the society. In large measure the change was due to the president, Mr. Elmslie, who had worked with astonishing enthusiasm in its interests.

Mr. R. C. Elmslie, in responding, said that it was now becoming the custom for medical practitioners to have a list of names of members of the society whom they were ready to recommend to such of their patients as needed this service. A reference had been made at the dinner the previous year to the fact that, in conjunction with the British Medical Association, steps were being taken to form a register of all engaged in this class of work. Further discussion had shown that in order to establish such a register there must be powers to insist upon certain qualifications, and to remove names from the register following upon misbehaviour. A legal basis was therefore necessary, and with this object a memorandum and articles of association had been drawn up and submitted to the Board of Trade. The Board of Trade, however, had turned the scheme down, and had suggested that an attempt should be made to proceed without such legal authority and see what could be achieved. In their own view that was of no use; there must be legal authority if the scheme was to be made effective alike in the interests of the members of the society, the medical profession, and the public. It was essential that all who did this work should be fully qualified and certificated, and he was glad to hear from the Medical Secretary of the British Medical Association that the suggestion of the Board of Trade was not to be the end of the matter, and that further steps would be taken. The Chairman then referred to certain events of the year.

The toast "The Guests" was proposed by Miss S. Grafton, and in the course of his response Sir Holburt Waring, President of the Royal College of Surgeons of England, commented on the efforts that had been made to obtain a charter which would bring in other branches of treatment and embrace radiographers and others. This, he said, was a thorny subject. There were those who were desirous of obtaining a special Act of Parliament which would enable a registering body to be set up, with powers of examination, licensing, and discipline, but it appeared to him that the best course to pursue was to approach the General Medical Council and see whether some general legislation could be obtained which would bring in the ancillary branches under one control, the primary authority being exercised by the General Medical Council. Mrs. Gilmour Reid, president of the Australasian Massage Association, who also responded, spoke of the difficulties with regard to registration in Australia. Registration existed in South Australia and Victoria, but not in New South Wales. A registration scheme for the whole of Australia would result in a great improvement of the position.

Nova et Vetera

THE PICTURE OF HENRY VIII PRESENTING THE ACT OF UNION TO THE BARBERS AND SURGEONS IN THE POSSESSION OF THE ROYAL COLLEGE OF SURGEONS

The story of the picture of King Henry VIII presenting the Act of Union to the Barbers and Surgeons now in the collection at the Royal College of Surgeons of England, and how it came into possession of the Company of Surgeons in 1786, is one of interest, and is not perhaps generally known.

The account of its acquisition by the Company is thus recorded in the minutes of the Court on July 6th, 1786.

"The Master informed the Court that in a sale of pictures by Monsieur Desenfans, a large capital picture was exposed to sale being a cartoon painted by Hans Holbein representing King Henry VIII delivering the Charter to the Barber-Surgeons in the year 1535 and having examined the same and being satisfied of its undoubted authenticity and that it was the original picture of that subject, and Mr. Grindall having also examined it and being of the same opinion, and thinking such an opportunity of procuring the possession of such a picture should not be missed and being of opinion that the same might be procured for a reasonable price, they had treated for the purchase and having reduced the terms to fifty guineas they had purchased the same on the account and for the use of the Company, and the Court of Examiners had issued the price of it out of the Company's cash."

A later minute records: "Resolved, that the Court doth highly approve of the conduct of the Master and Mr. Grindall upon this occasion and returns them thanks for their attention to the concerns of the Company."

Soon after the picture was purchased the Company decided to have it cleaned and restored, and a Mr. Lloyd was engaged to carry out the work. He demanded £400, but was eventually beaten down to fifty guineas.

When the College of Surgeons was formed the picture was removed to the new building in Lincoln's Inn Fields in 1806, where it still remains part of the fine collection of pictures in the possession of the College. Some twenty years later William Clift, the Conservator of the Museum, being dissatisfied with its condition, decided to attempt to clean it himself, and in so doing discovered to the right of the background a casement with a view beyond it of a steeple, an embattled tower, and the roofs of gabled houses. He thought that the steeple was that of St. Bride's, Fleet Street, but a further examination revealed two steeples as well as the tower, and it was suggested that the taller of the two could be no other than the old wooden steeple of Old St. Paul's, which was struck by lightning and burnt down in 1561. If this be the case the view seen through the casement must have been painted before that date.

The Rev. E. G. O'Donoghue, who examined the picture in 1918, was of the opinion that the steeple was that of Old St. Paul's and the square tower St. Augustine's, which stood to the east of the cathedral at the junction of Old Change and Watling Street.

The building in which the ceremony took place was originally thought to be Bridewell, but it has been pointed out that the palace was not begun until 1522, and it was scarcely habitable in 1540. King Henry rarely visited it after 1529, and it is therefore probable that Baynard's Castle, which was used as a Royal Palace at the time, may have been the scene of the ceremony. According to Dr. Ganz, it is "the same chamber with the same hangings, probably the throne room at Whitehall as in a large picture at Hampton Court. It is possible that the King may have sat for the picture at Whitehall, and that Holbein made use of the surroundings at his hand, but the view from the

window seems to indicate that the room represented was in Bridewell."

It is in the window and other details that the picture in the possession of the Royal College of Surgeons differs from that still hanging at Barbers' Hall in Monkwell Street, attributed to Holbein. For a long period the latter picture was supposed to represent the granting of the Charter by the King to the Barber-Surgeons, but Mr. Sydney Young has shown this to be incorrect. In his opinion the picture exhibits a Charter with the Great Seal pendant. He points out that the King was but 21 years of age in 1512 and was 49 in 1540, which latter age accords with the picture. Moreover, Vicary, Ayleff, Harman, and the others represented, were members of the Court in the latter year, but not in 1512.

Vicary, who is depicted as receiving the instrument, was Master from September, 1541, to September, 1542. There is every probability that the painting was executed during his term of office, and that is why Holbein paid him the compliment of putting him in the chief position in the picture. These considerations are sufficient to demolish the Charter theory, and point to the hypothesis that it is the Union of the Barbers' Company with the Guild of Surgeons, accomplished by Act of Parliament in 1540, which is commemorated. "The King is represented as being about 50, and on the left are Dr. John Chambre, Dr. Butts, and behind him Thomas Alsop, the Royal Apothecary. The tablet on the wall with its inscription is said to be of a later date than Holbein's work, and is said to have painted over a window." The following is a translation of the Latin inscription:

"To Henry the Eighth, the best and greatest King of England, France, and Scotland. Defender of the Faith and next to Christ supreme head of the Church of England and Ireland, the Company of Surgeons dedicate these with their united prayers.

A grievous plague had ravaged the region of England,
Afflicting man's spirits and penetrating his frame,
God, pitying from on high this remarkable scourge
Commanded thee to perform the office of a good physician.

The light of the Gospel flies around on glowing wings,
This will be the balm to enfeebled minds;
Whilst the disciples of Galen meet to raise a monument to thee,
And all disease is swiftly dispelled by thy power.

We therefore, a suppliant band of thy physicians,
Solemnly dedicate this house to thee,
And mindful of the favour with which thou, O Henry, hast blessed us,
Invoke the greatest blessings on thy rule."

Mr. R. H. Wornum, who was keeper of the National Pictures in the first half of the last century, states in his *Account of Life and Work of Hans Holbein*, 1867, that "the picture in possession of the Company of Barber-Surgeons was probably painted about 1541, and Holbein may have died before it was completed." He asserts that some parts were repainted and never touched by Holbein. We know from the references in Pepys's Diary that it was damaged in the Great Fire of London in 1666, for he tells us that when he saw it in 1662 he greatly admired it. Then in August 29th, 1668, he wrote:

"At noon comes by appointment Harris to dine with me and after dinner he and I to Chirurgeons' Hall where they are building it new, very fine, and there to see their theatre which stood all the fire, and which was our business, their great picture of Holbein's thinking to have bought it by the help of Mr. Pierce for a little money. I did think to give £200 for it, it being said to be worth £1,000, but it is so spoiled that I have no mind to it and is not a pleasant though a good picture."

Wornum suggests that after it was thus damaged it underwent restoration, and that the tablet on the wall with the inscription was introduced in place of the original window still to be seen in the picture at the Royal College of Surgeons. Mr. Arthur B. Chamberlain, in his life of *Hans Holbein the Younger*, 1913, says that "the original background was the window" and that the large white tablet on the wall to the right which helps to spoil the general effect was a late addition. To return to the picture at the Royal College of Surgeons, the early history of which is obscure, he states:

"On January 13, 1618, James I wrote from Newmarket to the Company of Barber-Surgeons asking that their picture should be lent to him as he was anxious to have a copy made of it, and promising that this should be done expeditiously and the original redelivered safely. The copy then made is in all probability the one now in possession of the Royal College of Surgeons, which is smaller than the original, and an indifferent version of it on paper attached to canvas. The figure of Alsop is omitted and in place of the tablet with inscription is the window with a view of the church tower, proving that if it is not the copy ordered by James I, it is at least a very early version of it."

Sir D'Arcy Power, who had an opportunity of closely examining this picture a short time ago, says:

"The back row of figures on the left of the King are evidently by an inferior artist than those of the picture at Barbers' Hall, some of the heads being quite grotesque and more like caricatures than the faithful portraits of Holbein. It is painted upon four pieces of paper, which are joined together upon a canvas to form the picture."

The early history of the painting is still obscure, and if it is the copy made for James I we have been unable to trace it in the Royal Collections of the seventeenth century. Mr. C. H. Collins Baker, the late Surveyor of the King's pictures, has kindly made a search among the catalogues of the Royal Collections and finds that the picture did not pass into the collection of Charles I, nor does it occur in the list of his pictures sold by the Commonwealth. It is not included in the catalogue of the pictures in the time of Queen Anne, and it may therefore be assumed that it was disposed of privately, and eventually came into the possession of M. Noel Desenfans about the middle of the eighteenth century. Desenfans, whose name is linked with Dulwich Gallery, was Consul-General of Poland in Great Britain at this period. He was a well-known connoisseur and art collector, and bought many pictures to form a collection for the King of Poland. His own pictures were offered for sale in 1786, and the picture of Henry VIII and the Barber-Surgeons, now in the possession of the Royal College of Surgeons, was among them and purchased for the Company of Surgeons. If, as surmised, this picture is the copy of the original made for James I, it is especially interesting as showing the background of the Holbein at the Barbers' Hall in its original state. The Holbein picture is painted on panel and measures 10 ft. 3 in. by 6 ft., while the copy in the collection at the Royal College of Surgeons is 9 ft. 2 in. by 5 ft. 2 in. The former was engraved by Bernard Baron in 1736.

C. J. S. Thompson, M.B.E.,
Hon. Curator, Historical Collection of the Royal College of Surgeons of England.

The *Klinische Wochenschrift* of September 15th is a special number with a semi-political significance. The nineteen articles which it contains are written by physicians and surgeons of the Saar area. In a preliminary note Dr. H. Dietlen, on behalf of the Saar practitioners, describes the contents as a contribution made in honour of the ninety-third meeting of the Society of German Scientists and Physicians by German doctors in the Saar who wish to express their unity—never lost in the spirit—with their colleagues in the Reich, and their gratitude for the participation of their German colleagues, during the separation, in the proceedings of scientific and medical bodies in the Saar.

Scotland

National Health Insurance Conference

The twenty-second annual Conference of the Scottish Association of Insurance Committees, held at Stranraer on September 28th and 29th, was attended by about 200 delegates from all parts of Scotland. After a civic welcome by Provost Murray of Stranraer, Mr. John Riddet, the president, in his address said that the British national health insurance scheme was a model to the world, but it must cause united concern to them in regard to the improvement of the services. The medical service was much better than it was when the scheme was instituted. In its scope, however, it was a general practitioner service, and it was desirable that it should be amplified by consultant, specialist, laboratory, and diagnostic aids, and that insured patients should have such institutional and nursing facilities as might be required. The clamant need of dependants for similar benefits was also generally recognized. Financial stringency at the moment appeared to hinder any great development, but they must continue to press for a full and complete medical service in the hope that the means would ultimately be found. The Conference unanimously resolved that the Government be urged to promote legislation to include within the scope of national health insurance young persons entering employment between the ages of 14 and 16. A resolution was also unanimously passed that, in the opinion of the Conference, the right to medical benefit lost by insured persons under the provisions of the Act of 1932 should be restored as soon as possible. It was remitted to the Executive Committee to consider how uniformity could be obtained as between insurance committees in Scotland in regard to making proprietary medicines available to insured persons ; it was suggested that details should be discussed with the British Medical Association and the Pharmaceutical Society. Mr. A. B. Gilmour, reporting on the work of the Drug Accounts Committee, referred to a number of unusual and unsuitable prescriptions which had passed through his department. He suggested that in the matter of vitamins care should be taken to see that what could be provided from the kitchen was not provided from the drug fund. There had been some laxity and luxury in prescribing—for example, a proprietary brand of orange squash, a tin of health salts for a child of 3, a dozen safety razor blades, etc. One insured person, in the course of nine years, had received 8 cwt. of an ointment containing boric acid at a cost of £117, and was still receiving treatment. Dr. Kerr, Edinburgh, moved a resolution that unrestricted freedom of change of doctor should be restored to insured persons ; this was unanimously approved.

At the meeting on September 29th Mr. John G. Highton, Secretary of the Department of Health for Scotland, in an address on the subject of a national health service, said that not nearly enough had been done in the past to resist the onset of disease, and it was along these lines that a great field of opportunity lay. Referring to the remarkable advances in public health measures in a comparatively brief period, he said that a medical officer of health had not been appointed for Glasgow until after 1860, and five and ten years respectively had elapsed before a fever hospital had been opened and a sanitary inspector appointed. Towards the end of the nineteenth century there had been a great development of health services, but there was no public provision, except in regard to infectious diseases, for medical and surgical treatment in the homes. In the year 1881 there were 9,000 families in the Bridgeton division of Glasgow, of which only 882 had more than two rooms, and the death rate was 30 per 1,000. The quadrangles of the houses, which were a pleasant feature on the Continent, had an evil significance in Scotland, containing in their centres a privy midden. In school medical inspection there was not yet a complete system of co-ordination with the home, and there was a lack of co-ordination between the home and industry. Much still required to be done in linking up health measures with domiciliary treatment by the general practitioners. Some of the problems which our health service still solved only partially were those dealing with nutrition, environment, and open spaces for the physical development of the body and refreshment of the mind. Referring to a recent tour he had made of various housing operations in Germany, Holland, Austria, and France, the speaker said that he had been most impressed by the good environmental conditions of the working classes ; there were gardens immediately opposite the houses, and not miles away in public parks, while every house he visited was very clean. Cleanliness was to a large extent alien in Scottish practice, but he thought this was largely an educational matter. Sir Henry S. Keith, in proposing a vote of thanks to Mr. Highton, said that personal considerations of health did not get all the attention they deserved—for example, in regard to the fever hospital of his town, it was a remarkable fact that at least 50 per cent. of the patients admitted were verminous. There was no reason nowadays why any child or adult should appear in hospital in a verminous condition. He thought that they were not sufficiently impressing upon the individual and the family the necessity of doing something themselves in the direction of health.

Edinburgh Public Medical Service

The proposal for a public medical service in Edinburgh was outlined in the *British Medical Journal* of June 30th last. The scheme has now been adopted, and about one hundred general practitioners in the city have joined it. The arrangements of the scheme follow the lines of the model scheme issued by the British Medical Association, and the area of the service is to be the city of Edinburgh. The first meeting of the practitioners who have joined the service was held on September 18th, in the British Medical Association House, Edinburgh, when Dr. F. K. Kerr was appointed chairman, Dr. A. F. Wilkie Millar honorary treasurer, and Dr. A. P. Robb honorary secretary. An office has been secured at 13, Heriot Row, Edinburgh, where Mr. R. Pairman Miller will act as general secretary. The subscriptions payable by members have been fixed at 4d. per week for one dependant, 8d. for two, 10d. for three, and 1s. for four or more (including medicines), and these will be gathered by collectors weekly or monthly. Canvassing is prohibited, and persons wishing to join the service must do so through their own doctor. There is free choice of doctor and chemist, as under the national health insurance scheme. Membership is limited to dependants of insured persons and others with incomes up to £250 per annum. The scheme has met with the approval of the Edinburgh Insurance Committee.

The Undesirable Tenant

A paper which Dr. A. K. Chalmers read before the Royal Philosophical Society of Glasgow, together with additional notes relating thereto by Sir John Mann, has been published by the Housing Committee of the Corporation of that city as a pamphlet under the title " Can the Undesirable Tenant be trained in Citizenship? " The authors review the progress of slum clearance and the progressive steps that have been taken to place upon local authorities the responsibility for rehousing, and indicate

the extent to which these responsibilities have been carried into actual effect, especially in Glasgow ; but, as their title indicates, they are chiefly concerned with the problem which emerges from these activities—namely, what is to be done as regards that section of the displaced slum dwellers who do not respond in a satisfactorily social way to the opportunity for improvement which is afforded them? The first point is to discover the extent of this problem ; what proportion of the population concerned are found to be quite " undesirable " or " incorrigible " tenants so that they constitute a " refractory group "? Here we have to deal with two sections: those affected by the clearance scheme who refuse to accept the alternative houses provided for them, and those who do accept but nevertheless fail to prove socially satisfactory in their new environment. It appears that experience indicates that some 20 to 25 per cent. of the displaced population will fall within the former class. Not all of these, however, are necessarily incorrigible. A number of them will be reasonably good tenants or lodgers who are able to provide for themselves by other means. Of those who are rehoused under such schemes it seems that about one-tenth soon prove to be undesirable tenants. It may thus be assumed that the statement commonly made that about one-quarter of present slum dwellers prove to be " slum-minded," and so difficult to rehouse with good results, is approximately correct. Three ways of dealing with this residue are mentioned in the pamphlet. Clearly they ought not to be abandoned and removed from such educational influences as can be brought to bear upon them. Some schemes, especially in Holland, have placed them—under certain regulations for promoting cleanliness, respectable living, and punctual payment of rent—in a special simplified type of house or building isolated from the rest. Others provide such a simplified form of house, not in isolation, but intermingled with blocks of the normal type. In spite of the apparent success which has so far attended some such arrangements the objections to this method are obvious and important, especially as they affect the children in families so housed. It is probable that many social workers will agree with Dr. Chalmers that in most cases it is better to rely upon a continued educative supervision under a rehousing scheme of normal character, especially by selected and trained women managers and supervisors according to the methods initiated by Miss Octavia Hill. This, together with the continuance of the beneficial influence shown to be exerted by maternity and child welfare centres, by the school medical service, and by the elementary school, should, within a generation or two, reduce the problem to much smaller dimensions, and reveal whatever residue there may be in whom inherent and inherited traits resist the effects of improved environment.

Housing in Edinburgh

At a meeting of Edinburgh Town Council on September 27th a scheme for assisting in the erection, by private enterprise, of new houses for the working classes was considered. It had been estimated that 750 houses would be erected during the year from May, 1934, to May, 1935, and it was reported that 310 houses had already been completed and occupied. It is now proposed that the corporation should advance money directly to builders who erect houses for letting purposes, on the same terms and conditions as to building societies, while the rate of interest to be charged is to be that fixed by the Secretary for Scotland under the Small Dwellings Act of 1899. It was also agreed, on the recommendation of the Public Health Committee, that an endeavour should be made by the corporation to erect 250 additional houses to replace existing unfit ones during each year of the five-year housing programme, 1934–8. It was pointed out that the corporation was still waiting for the Government's proposal regarding overcrowding before dealing with the question of building suburban bungalows, which would be far removed from working centres, and rehousing dispossessed slum dwellers in new tenement houses erected upon central derelict areas.

England and Wales

Water Supplies and the Drought

The water situation of the country was further reviewed at a meeting of the Water Supplies Emergency Conference held at the Ministry of Health last week. The rainfall in August and the early part of September has improved supplies in a number of areas, but economy in consumption is still needed. Of 225 large water undertakings, 202 have reported no serious shortage, present or prospective, sixteen report present shortage in their supplies, and seven not at present suffering from shortage report that the position may worsen later, though measures have been prepared for dealing with the situation. Of 745 urban authorities with populations under 20,000, 705 have reported no serious shortage of water, present or prospective, thirty-two report serious shortage, and eight whose areas are not at present suffering from shortage fear it later if enough rain has not fallen by the end of September. Of 536 rural district councils 332 have reported no serious shortage, present or prospective, 156 report serious shortage now in some part or parts of their districts, and forty-eight report that they are not yet suffering from shortage, but may suffer later. Engineering inspectors of the Ministry continue to make special visits to districts where the position calls for investigation. A large number of schemes of permanent improvement of supplies are being carried out or are being prepared. So far forty-one applications have been received under the Water Shortage Act for special emergency powers, about half of which are for new sources of supply, and new powers have already been given in twenty-six cases. Applications for grant under the Rural Water Supplies Act have been received for schemes of permanent improvement at an estimated total cost of £2,900,000. Grant has already been promised to ninety-seven councils, covering 604 parishes, for schemes estimated to cost £1,650,000. The Metropolitan Water Board reports that rainfall in August and early September made it possible to abstract more water from the river and to increase the amount in storage. Reserves had, however, to be drawn on during the third week of September, and economy is still needed. The general rainfall over England and Wales during August was 3.18 in., compared with a normal fall of 3.35 in. Generally the deficiency during the four months ending in August was 26 per cent. Rainfall during the first three weeks of September was less than the normal in most areas, though in others there was an excess locally due to severe thunderstorms.

Paying Patients' Block at Guy's

The foundation stone of Nuffield House, the new building for paying patients at Guy's Hospital, was laid on October 3rd by Lord Nuffield, who in December last offered the governors of the hospital £45,000 for that purpose. Fifty years ago—in September, 1884—Guy's opened a ward for private paying patients, the first ward of the kind to be instituted in a general hospital. At first it contained twelve cubicles. Later the number was increased to twenty-three, and a resident medical officer

appointed to look after it. To-day thirty cubicles and one room are available for private patients, but the demand is so great that cases have to wait two or three weeks before they can be admitted. The new paying patients' block will accommodate seventy-three patients. Plans have been prepared, and have received the approval of the Court of Governors and of King Edward's Hospital Fund for London.

The block will contain fifty-three separate rooms and five four-bedded rooms, wherein each patient will have a cubicle space. It will have its own sister-in-charge, resident surgeon, and fully equipped operating theatre suite. There will be waiting and lounge rooms for visitors and patients, and a complete kitchen and food unit. Each of these units will be in direct service to all floors by duplicated electric lifts. Special accommodation is allocated for radiology. A feature of the building is the roof garden. The whole of the roof, approached by electric bed lifts, will be available for patients, and the central portion is to be enclosed with movable glass slides. After the ceremony of the stone-laying, Lord Nuffield presented prizes to the students of the Medical School.

British Spas Federation

The bi-annual meeting of the British Spas Federation was held at Leamington last week. Among the numerous matters discussed was the question of the recognition by the Government of the proved value of the British spas and its appreciation of the spas as an asset of national importance, as is the case on the Continent, where, incidentally, a number of the spas are State-owned and controlled. The adoption of a system of diets was also discussed. One or two of the spas have recently instituted an elaborate dieting scheme, and the remaining spas in the Federation are to consider the adoption of similar methods. The Federation, in conjunction with the British Medical Association, has completed a comprehensive training scheme for all candidates for posts as spa attendants. This scheme is to be adopted at once, and will ensure that all new members of spa staffs will be thoroughly conversant with the theory and practice of spa work. A few of the larger British spas have already training schemes in operation, and no one is allowed to give treatment to a patient there unless he or she has the necessary training and certificates, but the remaining spas will now adopt this stringent course.

Housing Policy

On October 1st the Minister of Health, Sir Hilton Young, started a tour of large towns in connexion with the housing policy of the Government. The object of the tour is to explain to the housing authorities the Government's proposals for dealing with the evil of overcrowding, and to enlist their interest in the work. The Minister will also take the opportunity of discussing with the housing authorities the work of slum clearance, and other interests of local government. The towns to be visited are: Plymouth, Birmingham, Sheffield, Wolverhampton, Stoke, Manchester, Liverpool, Rochdale, Norwich, and Bradford ; and the tour, which will occupy the greater part of October, has been designed to cover the widest possible area and variety of housing conditions.

The Health and Cleanliness Council (5, Tavistock Square W.C.1) has recently produced a new poster in colours, "Health Insurance." Specimens of this poster will be sent to those interested by the secretary, Miss Norah March, and the council is prepared to consider supplying copies in bulk, free of charge, where these would be of substantial assistance to health education.

CORRESPONDENCE

R.M.B.F. Christmas Gifts

SIR,—It has been my privilege for many years to appeal to your readers for contributions to enable the Royal Medical Benevolent Fund to distribute Christmas gifts. I desire to express my personal gratitude to my many medical colleagues who have so generously responded to the appeal in recent years, and especially to the medical societies and Panel Committees who, together with Branches and Divisions of the British Medical Association, have arranged collections at their meetings in aid of this particular need.

It is impossible to give any details in a short letter of the sorrowful lives of those we endeavour to help ; in a great many cases tragedy has befallen them. It may not be realized that in issuing this appeal I write on behalf of over 650 beneficiaries, for that is the number on our books, and I feel, therefore, a great personal responsibility as to whether my appeal will suffice to persuade your readers of the urgent need of a generous response.

One medical practitioner, a married man, wrote recently to the Fund that at the age of 66 he had suffered a complete breakdown in health and further work was out of the question. He had done all that was possible to keep going, and was still not in debt, as he had drawn on his endowment policies. But he had now come to the end of his resources, and had been forced to take his little girl, aged 14, away from school, as he could not meet the next term's fees, his income being £60 per annum.

The Fund is now helping this colleague with a yearly maintenance grant, but we want at Christmas to give him and many others the unlooked-for Christmas gift. We try to distribute 30s. to each. I ask your readers to help us to do so. Donations will be gratefully acknowledged by the honorary treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, London, W.1.—I am, etc.,

THOS. BARLOW,
President.

September 30th.

The Eichholz Clinic

SIR,—May I beg the hospitality of your columns to invite members of the medical profession to visit the Alfred Eichholz Memorial Clinic, which was opened in July by the Prince of Wales? It is unique among clinics, inasmuch as it is staffed by blind masseurs and masseuses, whose very blindness appears to be an aid rather than a disability in the development of tactile sensibility. There are sighted medical supervisors and fully qualified sighted sisters, and the very complete equipment for electrotherapy has been specially designed for the use of blind operators. Apart from its interest as a useful service to the medical profession, it has claims on all who would like to encourage a body of men and women whose otherwise sombre lives are being brightened by the opportunity of doing really useful work. The clinic is lodged at 204, Great Portland Street, W.1.—I am, etc.,

MOYNIHAN,
Chairman of the Medical Advisory Board.

London, W.1, Oct. 1st.

Muco-purulent Tubo-tympanic Infections

SIR,—I was interested to read in your issue of September 22nd (p. 544) Dr. T. Ritchie Rodger's lucid and concise presentation of the above subject. It is a type of infection which at times gives one considerable trouble.

The advisability of searching for, and thoroughly eradicating, any source of infection in the nose or its

adnexa is clearly expressed by him, and is a "dictum" with which I am in thorough agreement. It is surprising how frequently an unsuspected, almost occult, nasal sinus infection, generally of the mucoid variety, is found, particularly in the maxillary sinus, in cases of catarrhal middle-ear deafness. Mere inspection of the nasal passages often fails to reveal this mild sinus infection. Transillumination and *x*-ray examination give some assistance, but in my opinion nothing short of puncture and aspiration of the maxillary sinus, in every doubtful case, completes the examination.

Subacute catarrhal middle-ear deafness which has proved resistant to other simpler remedies is often quickly relieved when the offending nasal sinusitis is discovered and treated. The earlier the nasal sinusitis is treated the better the prognosis, for there is a tendency, as I have shown elsewhere,[1] for the serous and mucoid exudation in the middle ear to become more and more fibrinous and difficult to evacuate as time progresses. Dr. Ritchie Rodger mentions the value of early evacuation of a serous or mucoid exudation in the middle ear by a paracentesis tympani and immediate inflation per the Eustachian catheter. It is a form of treatment which, following the practice of the late Sir William Milligan, I have adopted for many years with good results.-

I feel convinced, however, that if natural resolution of the otitic exudation does not follow quickly other simpler remedies, the sooner it is evacuated the better the result. Paracentesis may have to be performed on more than one occasion, since there is a tendency for the incision to heal before the catarrhal condition in the Eustachian tube and middle ear has completely resolved.

Unlike Dr. Rodger, I rarely prescribe any astringent or solvent drops for use after the paracentesis, for fear of inducing a secondary infection. The external auditory canal is first thoroughly cleansed by syringing with carbolic lotion (1 in 80), paracentesis performed under a local anaesthetic, and the middle ear then inflated by means of the Eustachian catheter. Unless the fluid evacuated is copious I do not dry out the external canal. A pledget of cotton-wool is placed in the external meatus and the patient warned to reapply the wool should it become soiled, but on no account to leave the ear unprotected or to treat it in any way until I have inspected it in a week or ten days.

I feel certain that if more attention were given to the milder degrees of deafness and tinnitus which follow the milder forms of coryza, etc., one would avoid that troublesome form of deafness in later life—namely, the chronic catarrhal deafness, with its attendant intractable deafness and tinnitus.

Dr. Rodger advocates for the relief of a tubal mucopurulent discharge through an anterior perforation lavage of the Eustachian tube through a Eustachian catheter. The same treatment, of course, would apply to a tubal discharge after a radical mastoid operation. Success frequently follows this method of lavage, but it is at times somewhat irksome to the patient, and often the tube can be cleansed in the opposite direction—namely, by filling the external canal or radical mastoid cavity with the desired solution, allowing the patient to lie down with the affected ear uppermost, and, while in this position, to repeatedly perform "negative Valsalva" (that is, swallowing with the lips closed and nostrils occluded). Negative pressure is thus produced in the middle ear, and as the air is sucked out of the tube siphonage of the fluid takes place from the middle ear via the Eustachian tube into the nasopharynx.—I am, etc.,

Manchester, Sept. 26th. F. Holt Diggle, F.R.C.S.

[1] *Clin. Journ.*, January 30th, 1929.

Evipan on a Full Stomach

Sir,—I was interested in the article on evipan anaesthesia in ophthalmic surgery by Mr. T. K. Lyle and Dr. F. G. Fenton in your issue for September 29th (p. 589). It appears to me, however, that their views on loaded stomachs require modification. They state that "evipan may be given without danger with a partially full stomach." Again, in reporting a case: "Inhalation anaesthesia would have been impossible owing to the fact that the patient had recently had a meal."

In the considerable literature which has now accumulated relating to evipan deaths there are fatalities which have undoubtedly been caused by syncope from an overloaded stomach. One author (E. A. Voss, *Deut. med. Woch.*, 1933, No. 25) specifically calls attention to this danger. On general principles there seems to be no reason why a full stomach should be less dangerous with sodium evipan than with any other type of general anaesthesia.—I am, etc.,

London, N.W.8, Sept. 28th. C. Langton Hewer.

Preliminary Ligature in Toxic Goitre

Sir,—Although in favour of preliminary ligature of toxic goitre are such authorities as Sir Thomas Dunhill, Professor Wilkie, Mr. Geoffrey Keynes, etc., I should like to outline briefly my opinion on the subject. I agree entirely with Mr. Philip Hawe (September 22nd, p. 569) that the preliminary ligature should never be practised in cases of toxic goitre. I think that such an operation, as trivial as it may seem, is only asking for trouble, or at least worthless.

In the last few years in the surgical clinic of Professor Lobenhoffer—one of the recognized German authorities on goitre—about eighty to a hundred operations on goitres, most of them toxic, have been performed every year, and in no case has the preliminary ligature of the arteries been practised. The mortality due to the operative shock was less than half per cent. The only two fatal cases I witnessed in this clinic were one in which a preliminary ligature was tried, and the other in which only one lobe of the gland was removed. As Mr. Hawe points out, for the good success of the operation it is imperative to remove at least three-quarters of the gland. Even the very toxic patients support the operation very well. The operative shock is always less when large portions of the lobes of the thyroid gland are removed than in cases in which only one lobe is resected, and I therefore believe that an operation in two stages is also unnecessary. I think that neither the preliminary ligature nor the resection of one lobe of the gland will reduce to any large extent the amount of active gland, and for this reason the intervention for toxic goitre should be in one stage, and the removed tissue, as said before, should be over three-quarters of the gland.

The preliminary use of iodine is extremely useful for the success of the operation, and gives excellent results when administered for a sufficient period of time. Regarding the other point—that preliminary ligation should be practised as a test for the susceptibility of the patient to surgical trauma—it is impossible to judge the degree of susceptibility through this operation. In many patients the post-operative shock is greater when this small operation is performed than in the ordinary partial thyroidectomy. On the other hand, I believe that the psychological effect produced on the patient by trying to obtain his permission for the operation is not different whether he is asked to agree to a preliminary ligature of the arteries or to a proper operation on the thyroid. In conclusion, basing myself on my own experience on toxic

goitres, which extends over 150 cases with no mortality, I should like to state that I have always been able to obtain the patient's consent, the operation being performed under local anaesthesia, and I have always practised the operation in one stage by partial removal of a little more than three-quarters of the gland, although among the patients there have been cases of a very high degree of thyrotoxicosis, advanced age, or very low general condition.—I am, etc.,

Manchester, Sept. 24th. G. BANKOFF.

The Swab in Diphtheria Diagnosis

SIR,—I hesitate to prolong the already lengthy correspondence on this subject, but I think it would be a pity if the net result of it were to shatter the general practitioner's confidence in yet another accepted clinical procedure.

No one knows better than the general practitioner that scientific tests are rarely a substitute for clinical observation, and that a negative swab does not preclude the disease when clinical signs are suspicious. On the other hand, a positive report always means that the patient is a potential danger either to himself or to others, or to both. Practising in a district where diphtheria has been almost endemic for several years, I have found the swab of very great assistance in the diagnosis of doubtful cases and in the detection of carriers.

In my experience of "sore throats" in relation to diphtheria there are three classes of cases to be considered: (1) those in which the diagnosis of diphtheria is certain, or almost so; (2) those in which no question of diphtheria arises; and (3) those in which doubt exists.

1. These cases are immediately given an injection of antitoxin—8,000 to 20,000 units, according to the severity and duration of the infection—and a swab is taken and examined for organisms of diphtheria and Vincent's angina (the other condition most likely to cause confusion).

2. These cases are treated on the appropriate lines. It is impracticable in a busy practice (and I think unnecessary) to swab all cases of sore throat—which may be anything from mildly injected fauces to an acute streptococcal pharyngitis or a recurring quinsy. If, however, diphtheria is prevalent locally, or the relatives express any uneasiness, a swab is taken, but no specific treatment is given pending a report.

3. Each of these cases must be judged on its own merits. The public health arrangements in this district are so good that I can almost always obtain the result of a direct smear examination within three hours, and a cultural report within twenty-four, and often less. Where the probability is not very great I wait for the direct smear report: if negative, it may be permissible to wait for the cultural report; but most of these cases receive antitoxin before the final report is received.

In all cases when diphtheria has been diagnosed and confirmed I immediately swab all the other members of the household, children and adults, and inject 2,000 units of antitoxin intramuscularly. Since adopting this procedure I have not had one single second case occurring in the same household. It seems likely that, even if a person is actually incubating the disease, an injection at this period may completely abort the attack. Moreover, if two swabs at intervals of two days are negative, and the person has had antitoxin injected, he may be safely released from quarantine.

It seems scarcely fair to attribute the high mortality from diphtheria to the dilatoriness of the general practitioner. Other more important causes are the delay of the relatives in summoning their doctor, and the initial virulence of the infecting strain of the Klebs-Loeffler bacillus. The remedy lies, first, in the education of the public to get immediate advice on every sore throat, and secondly, the provision by all local authorities of facilities for the rapid examination of swabs and the free and ample supply of antitoxin to practitioners for prophylaxis and treatment. If the public fails to learn the children will have to be immunized. If the practitioners fail to utilize the facilities provided for them then the "area specialists" will come. But they will not only give advice on diagnosis; they will make the diagnosis and administer the treatment, and another useful sphere of activity will be denied to succeeding generations of general practitioners.—I am, etc.,

Liverpool, Sept. 22nd. A. G. C. FFOLLIOTT, M.B., B.Ch.

Haemorrhage from Peritonsillar Abscess

SIR,—Knowledge of anatomy may be obtained first hand, by dissection; second hand, from anatomical textbooks; or third hand, from other books containing abstracts or extracts from anatomical works. Mr. T. G. Wilson makes use of the last method, and then allows himself to be led astray by an obvious misprint. Reference elsewhere, or even to neighbouring passages in the book he quotes (Irwin Moore: *The Tonsils and Adenoids and their Diseases*), would show that the descending palatine artery should have been described as a branch not of the internal carotid, but of the internal maxillary artery, and therefore from the external carotid artery. His argument for ligature of the internal carotid artery therefore fails.—I am, etc.,

Canterbury, Sept. 29th. THOMAS A. CLARKE.

SIR,—Mr. T. G. Wilson goes one better than Dr. Watson, in that he refers to one book for a reference to another book; his faith unshaken by the omission of either to mention a vessel which he finds among the various tissues brought away by the guillotine. (See the article on "The Post-operative Complications and Results of Tonsil and Adenoid Operations in Children" by Miss Elizabeth Nesbitt in your issue of September 15th.) But I am pleased to see that he confirms the existence of a vein where the Holmesian reasoning has already suggested it. If this vein exists, then to explain the persistent bleeding which is the subject of this argument it is only necessary to suppose that it behaves as veins notoriously often do. The alternative is to produce an artery where none can be shown by dissection, and then get it to behave as no artery can be made to do experimentally.

Personally, I have never seen arterial spurting in the tonsillar fossa anywhere except from the facial branch, but I have only too often had obviously venous bleeding shown to me as arterial because of pulsations in its flow transmitted from the great vessels close below it. However, if there is in Dublin a preparation showing the textbook blood supply of the tonsil I am very willing to go across to see it; I am quite unable to find one in this country.—I am, etc.,

London, W.1, Oct. 1st. DENIS BROWNE.

Injuries of the Knee-joint

SIR,—I confess to have only a limited knowledge of the surgery of the knee-joint, but I flatter myself I have just sufficient to understand when one writes sense or otherwise. It was not I who wrote "locking in extension, etc.": the phrase is Mr. Stewart Woodman's, and as it is contradictory in terms it is consequently meaningless. He is confusing method with the result, means with the end. What I did suggest was that the history gave me a right to claim that the cartilage could be torn in full extension, the locking resulting afterwards.

Since my communication of May 5th my notice has been drawn to a paper by Mr. C. H. Fagge. Mr. Stewart Woodman will there find that Mr. Martin's advocacy of 1911 has not settled this question finally, as this paper was written in July, 1927, and is to be seen in the *British Journal of Surgery*, vol. xv. He may be astonished to find that there are well-known London surgeons who question Mr. Martin's theory. If he has not already seen this paper I recommend it to him, as he will find a well-sustained argument, and a reasonable hypothesis as to how the cartilage is torn. Whether one agrees or not it compels one's respect, whereas a bald statement such as "rupture takes place *always* in flexion" leaves one cold. Mr. Stewart Woodman wishes me to explain the mechanism of rupture. I should like him to essay the task. If he will do that, and lay his assertiveness aside, he will earn our thanks and command our regards. —I am, etc.,

Leeds, Sept. 30th. J. Stewart.

The Medical Profession in Hungary

Sir,—I have just returned from the Annual Conference of the Association Professionnelle Internationale des Médecins at Paris, and I wish to bring to the notice of our Association some facts about the situation in Hungary which should cause grave concern to every organized medical body.

The representative of Hungary gave us a detailed history of what has been happening to the profession there in the last few years. Briefly, for some years the country has been suffering from the effects of the financial crisis to an extent which we can hardly conceive. Wages and salaries have been cut all round on several occasions, and the medical profession has suffered with the rest of the population. The reduction in the remuneration of insurance doctors amounts to something between 40 and 50 per cent. The last cut was made when the Government made drastic economies in order to save the health insurance system from bankruptcy. The doctors naturally expected that as the balance sheet of the "caisses" began to improve, so would the position of the medical profession. But they were cruelly deceived. Though the financial position of the "caisses" is now sensibly improved, the Government has peremptorily refused to consider the position of the doctors. But that is not all. The Government now intends to destroy the system of "free choice," which the profession thought it had, after a long struggle, established, and the emphatic protests of the Hungarian Medical Association have just been met by a decree ordering all doctors who derive any kind of remuneration from the State to leave the association. This involves nearly every doctor in the country—all insurance doctors, hospital doctors, university professors and teachers, and, of course, all military and Civil Service doctors.

The A.P.I.M. received this news with consternation. We were amazed that at this time of day the Government of any civilized country should deny to professional men the right of combination which is commonly accorded to workers of every kind. Doubtless the International Labour Office of the League of Nations, with which Hungary is connected, will have something to say about this extraordinary action.

Our Hungarian colleagues, crushed by real poverty but still resolute to preserve their civic rights, deserve, and will, I am sure, receive, the sympathy of every British doctor, as they did that of the representatives of fourteen national medical organizations present in Paris. —I am, etc.,

London, W., Oct. 2nd. Alfred Cox.

Death and the Survival of Rights of Action

Sir,—I am glad to see your leading article on the above subject (September 29th, p. 600), and I quite agree with the writer's statement that "this change in the law is fraught with grave consequences to the medical profession." Why then did the medical profession take no steps to prevent it? Before the change was made I called the attention of the London and Counties Medical Protection Society to the matter, but nothing was done. Did the British Medical Association do anything?

I may be wrong, but I think the recent change in the law makes the widow, or other representatives, of a deceased doctor liable for alleged negligence of the doctor during his life. If this is so the consequences are more than grave. In a large proportion of cases there will be no evidence (in his absence) on the doctor's behalf, and the opportunity for blackmailing will be simply appalling. Already, as some of the judges seem fortunately to recognize, the expert blackmailer quite realizes that the law affords an efficient and safe engine for his purposes.—I am, etc.,

Lingfield, Surrey, Sept. 29th. Hugh Woods, M.D.

"Port Sanitation and Common Sense"

Sir,—In your issue of August 25th a ship surgeon airs his "grouses" against the port sanitary authorities. Though my experience as port medical officer was a temporary one of only some months' duration I feel qualified to question the justice of some of his views.

Ship surgeons, I imagine, are no different from the rest of the profession, and they comprise men good, bad, and indifferent; men with much experience and with little. Can the port authorities be certain that the ship surgeon (not to speak of the skipper of a ship carrying no doctor) can be relied on *in every case* to differentiate between (1) mild cholera and acute food poisoning, (2) an ordinary femoral adenitis and plague with a septic wound of the leg as a coincidence just to put one off, (3) severe chicken-pox and mild small-pox modified by vaccination? Port authorities have more experience of these "snags" than the average individual ship surgeon, of whom how many have had much experience of plague and cholera? I have omitted the possibility that several deaths from "pneumonia" on board may have been due to *B. pestis* and not to the pneumococcus. Hence the question, "Have you had any cases of illness aboard, infectious or not?" If circumstances seem suspicious the authorities can pursue the matter.

"Ship Surgeon" complains of having to fill up a form at both ends of Suez Canal. Assuming the last port of call to have been Aden, surely infectious disease may break out aboard between Suez and Port Said. I see no reason for this complaint. As to the question whether the ship has picked up anybody or anything during the voyage—the ship might have picked up the crew (with their belongings) of an Arab dhow drifting unmanageable in the Red Sea, the crew being stricken with cholera acquired from the pilgrimage. In this case surely the ship could give the approximate position. The authorities are not dealing only with the surgeons of crack British liners. Certainly the surgeons of some foreign ships cannot be relied upon too far, and most ships carry no doctor. There cannot be a multitude of forms—for example, (1) for ships not carrying doctors, (2) for foreign ships carrying a doctor, (3) for British ships carrying a doctor who is (*a*) good, (*b*) bad, (*c*) indifferent.

I once boarded a ship belonging to a famous British line carrying a British doctor who assured me that he had no illness on board. He was not a good liar, and his assurance

was too emphatic. A tour of the ship disclosed several cases of severe small-pox, which were being deliberately concealed from me. Naturally I visited the ship with the utmost rigour of my powers, which were considerable, and reported the facts to the Board of Trade. I fancy it cost the company some thousands of pounds and the doctor his job. A week or two later I boarded a foreign liner. The doctor informed me that he had two cases of small-pox which had been isolated to the best of his ability, and that every soul aboard had been vaccinated. Naturally I did my best for this ship, allowing the discharge of cargo and of passengers on condition that they gave the address of their destination and reported daily to the health authorities during the incubation period. The surgeon of another British liner informed me that he had lost a passenger from retention of urine. Inquiries revealed the fact that before sailing the surgeon had pawned the ship's case of catheters.

In conclusion, I may add that I have been hauled out of the Orient Express at Brigue and subjected to medical inspection, merely because my passport showed that I had recently been in Egypt, where some cases of plague had occurred.—I am, etc.,

Alexandria, Sept. 2nd. "M.D."

Obituary

BARRY KEYTE TENISON COLLINS

M.A., M.D.Cantab., F.R.C.S.Ed., F.C.O.G.

Obstetrician and Gynaecologist, Cardiff Royal Infirmary; Lecturer in Obstetrics and Gynaecology, Welsh National School of Medicine

The death of Dr. Barry Tenison Collins, which occurred on September 24th from cerebral haemorrhage at the early age of 47, removes a prominent figure from the medical life of Cardiff and from his specialty. His father, the late Mr. Edward Tenison Collins, was one of the first to specialize in gynaecology in South Wales: he died only eight years ago.

After a distinguished war service in Gallipoli, Egypt, and East Africa as a captain in the R.A.M.C.(T.), Barry Collins returned to Cardiff and devoted himself entirely to the study and practice of his twin specialty. He was soon appointed to the junior honorary obstetrical and gynaecological staff of Cardiff Royal Infirmary, and in 1931 he was promoted to the senior staff when Sir Ewen Maclean resigned. He was also lecturer in the subject in the Welsh National School of Medicine, and with these appointments his reputation and his practice grew rapidly, so that he came to occupy a leading position in South Wales. He was a sound clinician, an experienced operator, and a clear and concise teacher; while as a colleague his cheerful, breezy presence was always welcome in any professional gathering.

His outside interests were many, and chief among them was his love of sailing: every spare moment was spent in his motor boat in the Bristol Channel. He was also a keen gardener, with quite a specialized knowledge of roses. His mechanical knowledge and ability was most marked, and he was always happy when dealing with some such problem in professional or domestic life. That a life of such varied interests should be cut off so tragically and at so early an age appears indeed hard. He leaves a widow and a daughter, to whom has gone out much deep and sincere sympathy from a very wide circle of personal and professional friends. The memorial service, in the chapel of Cardiff Royal Infirmary on September 27th, was attended by a large gathering, which included practically the entire medical and nursing staff of the Infirmary.

THE LATE PROFESSOR J. A. MILROY

Professor E. B. C. Mayrs writes from Belfast:

Professor J. A. Milroy inspired to an unusual degree the affection and esteem of all who knew him. Kindly and unassuming, his profound knowledge of biochemistry was always at the service of his colleagues, and their problems often made considerable demands on his time. Those who sought his advice were impressed by his familiarity with complex reactions, and with the less known literature of his subject. But his knowledge of science and philosophy extended far beyond the limits of biochemistry. He was a very careful worker; his name is a guarantee of accuracy in his published work. It is hard to believe that his place can ever be filled. We have lost a good friend, and his modesty and charm will live in our memory.

Dr. Thompson Campbell died on September 22nd in Leeds, after a short illness, at the age of 62. Born in Glasgow, he was educated at Hutchinson's Grammar School and Glasgow University, where he took honours in many of his classes, among them the Sir William Gairdner prize in clinical medicine. He graduated M.D., with distinction, in 1900, and subsequently held the appointments of house-physician and house-surgeon at the Western Infirmary, Glasgow. He made a voyage to India, and afterwards settled down to his life's work. He was superintendent at Quarriers' Homes, Bridge of Weir, where he did excellent work in organizing and introducing new methods in the treatment of tuberculous patients, and was afterwards appointed superintendent at Ochil Hills Sanatorium, Kinross. This was a new institution, built and equipped with all modern appliances. In 1912 he entered the service of the West Riding of Yorkshire as chief tuberculosis officer, and worked for seven years organizing dispensaries for the examination of tuberculous patients. In 1919 he was appointed medical superintendent at Middleton Sanatorium, Ilkley, Yorkshire. In 1931 he became one of the consultant tuberculosis officers for the West Riding. He travelled extensively in Switzerland, Germany, and America, studying all methods in the treatment of tuberculosis in the various sanatoria. A former colleague writes: Middleton-in-Wharfedale Sanatorium is one of the largest institutions of its kind in the country, having 300 beds for the treatment of male patients, and it was here that Campbell found scope for his energy, enthusiasm, and skill in his life's work. A man of unbounded energy, he could not bear fools gladly, and had no compromise with error or slackness in work. He did not spare himself. He knew every patient in his sanatorium, could tell you off-hand his name, condition of his chest, including *x*-ray examination, and whether his sputum was positive or negative. Campbell himself knew too well what it meant to have tuberculosis, and the more ill a patient was it only drew forth the best he could give. He was essentially a man who was never weary in well-doing. He cared little for the things of pleasure, and money he spent freely in helping and relieving patients whom he knew to be in distress. Now that he is gone he will be greatly missed by many throughout the West Riding of Yorkshire, where he was held in great respect and affection.

Dr. Henry William Beedham, who died on July 31st at the age of 66, had been a member of the British Medical Association for exactly forty years. He studied medicine at Cambridge and the London Hospital, and graduated M.A., M.B., and B.Ch. in 1895, having taken the L.S.A. in 1893. He was engaged in general practice for some years, first at Norwich, then at West Hampstead and in Cricklewood. In 1914 he took up ophthalmic work only, and held appointments as clinical assistant at Moorfields, the Royal Eye Hospital, Southwark, and at King's College Hospital, Denmark Hill. He took the diploma D.O.M.S. soon after its institution. At the commencement of the Great War Dr. Beedham was the

first man in West Hampstead to enrol as a special constable. He went to France in 1915 under the Red Cross Society, and in 1916 became a temporary lieutenant in the R.A.M.C. ; he was promoted captain, and in 1917 was invalided home. Dr. Beedham was a man greatly beloved by all who had the privilege of working with him. For fifteen years he was vicar's warden at Emmanuel Church, West Hampstead, and for six years had been chairman of the Medical Board of the Church Missionary Society. He will be much missed by a large circle of friends.

We regret to announce the death, on September 26th, of Dr. John William Ensor. Dr. Ensor was educated at Epsom College and Guy's, and qualified in 1899. Soon afterwards he started practice in Birmingham. Ensor moved to the new district of Golder's Green in 1911, and saw Hendon develop from a rural village to a borough of over 100,000 inhabitants. In practice he was extremely successful, and on his retirement in March of this year, owing to ill-health, he received a remarkable demonstration of affection from his patients, who presented him with an illuminated address and a motor car to mark their appreciation of his services. After twenty-two years' membership of the British Medical Association he was made chairman of the Hendon Division in 1931. For many years he served on the medical staff of the King Edward Memorial Hospital, Hendon. His colleagues have a very deep and real sense of sorrow at his loss. He is survived by his wife and two children.

Universities and Colleges

UNIVERSITY OF LONDON

Lectures

A course of three lectures, entitled "Forty Years of Gynaecological Endocrinology," will be given by Professor Ludwig Fraenkel, late director of the Women's Clinic in the University of Breslau, at University College Hospital Medical School, on October 31st and November 2nd and 5th, at 5.30 p.m.

The Heath Clark Lectures, on "Malaria in Europe," will be given by Dr. L. W. Hackett, assistant director of the International Health Division of the Rockefeller Foundation, at the London School of Hygiene and Tropical Medicine, on December 3rd, 4th, 5th, 6th, and 7th, at 5 p.m.

A course of three lectures, on "Newer Aspects of Gastritis and its Consequences," will be given by Professor Knud Faber of the University of Copenhagen, at Guy's Hospital Medical School, on November 6th, 8th, and 9th, at 5 p.m. At the first lecture the chair will be taken by Dr. Arthur F. Hurst.

A course of three lectures, on "Some Chemical Problems related to Pharmacology," will be given by Professor G. Barger, D.Sc., F.R.S., of the University of Edinburgh, at the London (Royal Free Hospital) School of Medicine for Women, on November 1st, 2nd, and 9th, at 5.30 p.m.

A course of three lectures, on "Physiological Equilibrium," will be given by Professor L. J. Henderson of the Fatigue Laboratory, Harvard University, at University College, on October 16th, 17th, and 18th, at 5 p.m.

A lecture on "Inflammation of the Maxillary Antrum and other Accessory Sinuses (Some Clinical Manifestations of its Pathology)" will be given by Mr. Herbert Tilley, at the Royal Society of Medicine, on Thursday, November 1st, at 5 p.m.

A public lecture on "Hippocrates and the Hippocratic Tradition in Modern Medicine," by Dr. A. P. Cawadias, will be given at King's College, Strand, W.C., on Friday, October 19th, at 5.30 p.m.

UNIVERSITY OF LEEDS

The following candidates have been approved at the examinations indicated:

Final M.B., Ch.B. (*Part I*): T. K. Cooke, F. A. Crosfill, M. A. Kader, C. V. Light, O. Scarborough, F. A. Shackleton, Helene E. Sykes, J. D. F. Thornton, H. L. L. Wilson. (*Part II*): F. B. Coates, G. M. Davies, R. S. Illingworth, B. Jackson, K. I. Johnstone, G. J. Kearney, E. Lodge, L. Rabinovitch, J. T. Rhodes, H. R. Rollin, L. A. Westwood. (*Part III*): K. I. Johnstone (second-class honours), F. B. Coates, G. M. Davies, R. S. Illingworth, B. Jackson, G. J. Kearney, E. Lodge, J. T. Rhodes, L. A. Westwood, W. Zemsky.

Diploma in Psychological Medicine.—A. J. Bain, H. Burt, J. M. Frew.

D.P.H.—J. Fielding, G. P. Holderness, J. Q. Mountain.

Medico-Legal

BUSINESS RELATIONS BETWEEN DOCTORS*

VARIATION OF THE PARTNERSHIP AGREEMENT

The Partnership Act, 1890 (Section 19), lays down that the mutual rights and duties of partners, whether they are set out in an agreement or left to be defined by the Act, may be varied by the consent of all the partners. This consent need not be given expressly, but may be inferred from a course of dealing. The partners may, in fact, be quite unaware that they have consented to a variation, but if they have behaved as though they had consented, then the variation is binding on them. The court inquires in each case what the actual *de facto* rights and duties were, not how they appeared on paper.

The most usual form of variation to come before the courts is a failure to take the accounts at the intervals specified in the articles. The written agreement often lays down that the accounts shall be taken and signed yearly or half-yearly, and that if a partner dies a final account shall be taken as at the date of his death. When the accounts have not been taken as they should have been the court tries to do justice to the representatives of the deceased.

For instance, in Simmons *v.* Leonard (1844) the articles provided that an account should be taken every year. A partner died, and in the dissolution proceedings it appeared that the partners had never settled an account at all. The court ordered a general account to be taken down to the death of the deceased partner.

In Pettyt *v.* Janeson (1819) the accounts were to be taken every Lady Day. For the first few years they were so taken, but the settlements became irregular, and when a partner died in February, 1813, the last account was found to have been settled on November 5th, 1811. The court held that, as both parties had considered this a binding settlement, the next one ought to have been taken on November 5th, 1812, and awarded the deceased partner's estate a share of the profits up to that date.

Articles sometimes also provide for a periodical valuation, and disputes have arisen because the partners have not exactly carried out the provisions of the clause which governs it.

In Coventry *v.* Barclay (1863) an annual account and valuation had to be "made and fully finished" between the partners, and was binding on them when it was finished and signed by all. A partner died two months after the valuation had been taken ; he had not been present, nor had he signed or expressly approved it, but it had been taken in the usual way, and there was nothing to show that he would probably not have accepted it. His executors claimed that it was an arbitrary valuation and he had not accepted it ; they asked for a new valuation. Lord Westbury, Lord Chancellor, said that whether the method of taking the valuation agreed with the articles or not, yet, as it had always been followed without deviation or objection, it was valid and binding on the partners. If it was not the method prescribed in the articles, then it was evidence of a new agreement between the partners. The deceased partner had accepted and agreed to this valuation ; it had been fully finished and settled between the partners, and if the deceased had not signed it he should have done so. As equity assumes that a thing is done when it ought to have been done, the deceased had, for the purposes of equity, signed the valuation, and it was as binding on him and his representatives as if he had.

It is not necessary for the partners to persist for a long time in a course of conduct inconsistent with the articles ; it is only necessary that they shall all have clearly intended to supersede them. The court will not, however, assume that the articles have been varied merely because a provision has been waived once or for a short time only. Sometimes the partners seem to have observed a set of conditions not laid down in the articles but stricter than the existing provisions—such as taking a daily account in the management of the Covent Garden Opera House

* The first of these articles, by a legal correspondent, appeared on June 9th, 1934 (p. 1053), the second on June 23rd (p. 1145), the third on July 7th (p. 42), the fourth on July 21st (p. 141), and the fifth on September 22nd (p. 574).

(Const *v.* Harris, 1824). In this event one partner cannot claim as a right that this variation should be continued; the decision is one for the whole firm. Needless to say, many disputes would be avoided if all partners (1) kept in mind the main provisions of their articles, and (2) regularized every variation by putting it in writing and signing it, or, better still, by getting their solicitor to draft an appropriate amendment to the articles.

RELATIONS OF PARTNERS TO OUTSIDE PERSONS

For the purpose of the business of the partnership every partner is an agent of the firm. Anything he does in the ordinary course of the firm's business binds the firm and the other partners. If, for instance, he orders a supply of drugs or medical appliances in the name of the firm, the firm must pay for them. The only exception is a double one: when he has in fact no authority to act for the firm in the particular matter in hand, and the person with whom he is dealing either knows that he has no authority or does not know or believe him to be a partner. Both conditions must be fulfilled. Whether he has authority or not, he still binds the firm if the person with whom he is dealing thinks he has. If he has no authority, or has acted outside the scope of his authority, the firm can, of course, claim compensation from him for the expense to which he has put them. The firm is not bound if he pledges its credit without authority for a purpose apparently not connected with its ordinary course of business—for example, if he placed in its name a large order for wine—for the third party is supposed to assume that he has no authority to do so. The principle is that the firm is not bound if the third party knows or has reason to know that the partner has no authority. If, for instance, the partners have agreed that one of them shall pledge the firm's credit only under certain conditions, a person who has notice of this agreement cannot claim against the firm if he gives credit in violation of those conditions.

Every partner is liable, jointly with the other partners, for all debts and obligations which the firm incurs while he is a partner. In Scotland the law is stricter, for each partner is severally liable—that is to say, he is responsible for the whole of the debts of the partnership and not only for his own share. After his death his estate is severally liable in England as well as in Scotland; in England his own creditors have priority over partnership creditors, but in Scotland the partnership debts and his separate debts rank together.

Firm's Liability for Negligence of Partner

In a medical partnership a partner does not often have occasion to pledge the credit of the firm, and its work is so definitely limited to professional services that the question of whether a partner is acting in the course of its business or not hardly ever arises. A fact which concerns medical partners far more closely is that the whole firm and every member severally is liable for any damage caused by the wrongful act or omission of any partner acting in the ordinary course of its business, or with its authority. A patient dissatisfied by the treatment of one partner can sue the whole firm, and if he succeeds each and every partner is liable for the damages and costs, and the property of any one can be taken in execution of the judgement. The partner against whom the negligence is proved must indemnify the firm, but he may not be in a position to do so. Moreover, even if the patient loses his case he may have no money to pay the firm's costs, which will then fall on all the partners, because the partner whose conduct is complained of has done no wrong and therefore cannot be called on to indemnify the firm. Even if the patient does pay the costs, he does not reimburse the firm for the whole expense it has suffered, for a litigant, successful as well as unsuccessful, usually has to pay his own solicitor's costs.

Hence the vital necessity for every member of a medical partnership—even more vital, if possible, than for a solitary practitioner—to belong to a defence society. If an action is brought against a partnership for the alleged negligence or misconduct of a partner who is not a member of a defence society, the societies to which the other partners belong would in all probability refuse to assist them. It is not necessary that all the partners should belong to the same society, for the two largest bodies have a reciprocal arrangement under which they act as one, but membership of the same society by all the partners has many obvious advantages and offers a ready means of settling any dispute between the partners without expense to them.

In the same way, any admission or representation made by any partner concerning the partnership affairs, and in the ordinary course of its business, is evidence against the firm. For this reason, if the conduct of any partner is being called in question by someone outside the partnership, the other partners should exercise the strictest discretion in speaking of the matter. A chance word spoken by any of them, even to a person who is not apparently interested, may have the most awkward consequences for them all.

Innocent partners cannot be fined or imprisoned for the criminal conduct of one of their number, but if some person is injured by that conduct, and it is in the ordinary course of their business, he can bring a civil action against any or all of them.

The Services

COMMISSIONS IN THE R.A.M.C.

The War Office announces that applications are invited from medical men for appointment to commissions in the Royal Army Medical Corps.

Candidates will be selected for commissions without competitive examination, and will be required to present themselves in London for interview and physical examination on or about October 25th, 1934. They must be registered under the Medical Acts, and normally must not be over the age of 28 years.

Successful candidates will in the first instance be given short service commissions for five years, at the end of which period they may either retire with a gratuity of £1,000 or apply for a permanent commission. Permanent commissions will be given to officers selected from among those who wish to make the Army their permanent career.

Full particulars of the conditions of service and emoluments, also forms of application, may be obtained on application, either by letter or in person, to the Assistant Director-General, Army Medical Services, the War Office, London, S.W.1.

DEATHS IN THE SERVICES

Major-General Percy Carr-White, C.B.E., Madras Medical Service (ret.), died at Sedghill, Wilts, on August 6th, aged 69. He was born on June 20th, 1865, the son of William Alfred White, Esq., merchant, of Sydenham, and was educated at St. Thomas's and at Edinburgh, where he graduated M.B., C.M. in 1889, subsequently taking the F.R.C.S.Ed. in 1903 and the D.T.M. at Liverpool in 1909. Entering the I.M.S. as surgeon on March 31st, 1890, he became colonel on June 7th, 1916, and major-general on December 8th, 1919, retiring on October 18th, 1921. He served in the third Burmese War in 1891–2, with the Irrawaddy column (medal with clasp); on the North-West Frontier of India, in the Tachi campaign of 1897–8 (medal with clasp); and again on the North-West Frontier and in Afghanistan in 1919, when he was mentioned in dispatches in the *London Gazette* of August 3rd, 1920, and received the C.B.E. He was appointed honorary physician to the King on October 31st, 1918.

Colonel Alan Edmondson Tate, C.S.I., C.M.G., late R.A.M.C., died at Bexhill on September 3rd, aged 75. He was born at Ripley, Surrey, on July 5th, 1859, the son of the Rev. C. R. Tate, rector of Trent, Dorset, was educated at Merchant Taylors', at Bishop's Stortford School, and at the Middlesex Hospital, and took the M.R.C.S., and L.S.A. in 1882. Entering the Army as surgeon on August 4th, 1883, he reached the rank of colonel on December 31st, 1912, and retired on December 26th, 1917. He served in the Burma War in 1886–9 (frontier medal with two clasps); in the Chitral campaign of 1895, with the relief force (medal with clasp); and in the South African War in 1899–1901, when he took part in operations in the Transvaal, the Orange Free

State, and Cape Colony, including the relief of Kimberley, the actions of Paardeberg, Poplar Grove, Karee Siding, Zand River, Johannesburg, Pretoria, Diamond Hill, Wittebergen, and Colesberg, receiving the Queen's medal with six clasps. In the war of 1914–18 he served as an A.D.M.S., was mentioned in dispatches in the *London Gazette* of October 19th, 1916, and received the C.M.G. in 1916 and the C.S.I. on September 9th, 1919. He was staff surgeon to Lord Kitchener, Commander-in-Chief in India, in 1903–7, and honorary surgeon to the Viceroy in 1912–17. In 1889 he married Zaidee, daughter of Frank White, Esq. She survives him, with one son, Lieut. Commander H. R. Tate, R.N., and one daughter, Mrs. Charles Jennings of Avisford, Arundel.

Lieut.-Colonel James Farquharson MacLaren, Bengal Medical Service (ret.), died suddenly at Allahabad on August 5th, aged 79. He was born on October 22nd, 1854, the son of the late Dr. MacLaren of Blairgowrie, and was educated at Edinburgh, where he graduated M.B., C.M. in 1877. Entering the I.M.S. as surgeon on April 2nd, 1881, he became lieutenant-colonel after twenty years' service, and retired on June 24th, 1911. He served in the Sudan campaign of 1885, in the Red Sea column, was present at the actions of Hashin and Tamai, and received the Egyptian medal, with a clasp, and the Khedive's bronze star. The rest of his service was spent in civil employ in the North-West, now the United Provinces, where he was for many years civil surgeon of Allahabad. After his retirement he remained there as surgeon to an Indian rajah. Some years ago he acquired the estate of Dalnabreek, Kirkmichael, Blairgowrie.

Lieut.-Colonel Winthrop Benjamin Browning, C.I.E., Madras Medical Service (ret.), died at Exmouth on September 15th, aged 79. He was born on July 6th, 1855, the son of the late Benjamin Winthrop Browning of Baggotstown, County Limerick, was educated at the City of Dublin Hospital, and took the L.R.C.S.I. and L.K.Q.C.P. in 1879. Entering the I.M.S. on March 31st, 1880, he became lieutenant-colonel after twenty years' service, and retired on May 17th, 1910. After a couple of years' military duty the rest of his service was spent in civil employ in the Madras Presidency, almost entirely in the Madras General Hospital and Medical College. There he held the posts successively of professor of medical jurisprudence, assistant physician, second surgeon, and finally first surgeon and professor of surgery, and latterly also principal of Madras Medical College. He served as surgeon to three Governors of Madras in succession—Lord Wenlock, Sir Arthur Lawley, and Lord Ampthill. He received the C.I.E. on December 31st, 1898. After retirement he settled at Fermoy, County Cork. In 1887 he married Annie Georgina, daughter of Colonel Kenlis-Fergus Stevenson, and had three sons.

Lieut.-Colonel Samuel Esmond Prall, Bombay Medical Service (ret.), died at Hythe on September 15th, aged 72. He was born on April 19th, 1862, the son of Dr. Samuel Prall of West Malling, was educated at Guy's Hospital, and took the M.R.C.S. in 1885, the L.R.C.P.Lond. in 1886, and the M.B., with honours, and the B.S.Lond. in 1887. Entering the I.M.S. as surgeon on September 29th, 1888, he became lieutenant-colonel after twenty years' service, and retired on March 26th, 1921. He served in the war of 1914–18, and was mentioned in dispatches in the *London Gazette* of March 7th, 1918.

Lieut.-Colonel Evelyn Charles Hepper, Indian Medical Service (ret.), died at Beaumont, Guernsey, on September 16th, aged 57. He was born on December 10th, 1876, was educated at Bart's, and took the M.R.C.S., L.R.C.P.Lond. in 1900. Entering the I.M.S. as lieutenant on June 27th, 1901, he became lieutenant-colonel on December 27th, 1920, and retired on September 1st, 1931. He served in the Zakka Khel campaign on the North-West Frontier of India in 1908, receiving the frontier medal with a clasp. In 1913 he got civil employ in the United Provinces, but in the following year was recalled to military duty to serve in the war of 1914–18. After the war he rejoined the United Provinces, and served there until his retirement.

Dr. Arthur Batoum Zorab, late I.M.S., died at Southampton on September 1st, aged 54. He was born on April 18th, 1880, the son of the late Lieut.-Colonel J. M. Zorab, I.M.S., was educated at Guy's, and took the M.B., B.S.Lond. and the M.R.C.S., L.R.C.P.Lond. in 1906. After serving as chief clinical assistant in the ophthalmic department at Guy's, he entered the I.M.S. as lieutenant on July 27th, 1907, but resigned two years later, on September 26th, 1909, and settled at Southampton, where he practised as an ophthalmic surgeon. He was honorary surgeon to the Free Eye Hospital, Southampton, and honorary ophthalmic surgeon to the Royal Hants County Hospital at Winchester.

Medical News

Four lectures on the rheumatic diseases will be delivered by Dr. J. Alison Glover at Gresham College, Basinghall Street, E.C., on October 9th, 10th, 11th, and 12th at 6 p.m. Admission free.

Dame Janet Campbell has been invited by the Canadian Council on Child and Family Welfare, with the approval of the Dominion Government, to visit Canada during October and November in the interest of maternity and child welfare, and she sails for Quebec to-day, Saturday, October 6th.

A meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine will be held on Tuesday, October 9th, at 5 p.m., when Professor J. H. Burn will deliver his presidential address on "The Control of the Blood Pressure." On October 12th, at 8.30 p.m., Mr. Ransom Pickard will give his presidential address before the Section of Ophthalmology, on "The Causation of Herpes Ophthalmicus."

A meeting of the Paddington Medical Society will be held at the Great Western Royal Hotel, Paddington, W., on Tuesday, October 9th, at 9 p.m., when Professor F. Langmead will deliver an address on "The Significance of High Blood Pressure."

The Harben Lectures will be delivered in the Lecture Hall of the Royal Institute of Public Health, 23, Queen Square, W.C., at 4 p.m. on October 8th, 9th, and 10th by Dr. W. J. Tulloch, professor of bacteriology, University of St. Andrews, on "The Diagnosis of Small-pox and the Investigation of Vaccinia by Laboratory Methods." No tickets of admission are required.

The opening meeting of the Illuminating Engineering Society will be held at the Lighting Service Bureau, 2, Savoy Hill, Strand, W.C., at 6 p.m. on Tuesday, October 9th. After the presidential address by Mr. H. Hepworth Thompson, a report on progress in illuminating engineering, prepared by the Technical Committee, will be presented, and various exhibits shown.

Two special lectures on "The Operative Treatment of Facial Palsy" (illustrated by cinema films) will be delivered at the Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., on Wednesday and Thursday, October 10th and 11th, at 5 p.m., by Dr. Arthur Baldwin Duel, F.A.C.S., senior surgeon-director of the Manhattan Eye, Ear, and Throat Hospital, New York.

The fifth winter post-graduate session at the Hampstead General and North-West London Hospital, Haverstock Hill, N.W.3, will open on Wednesday, October 17th, at 3 p.m., with an address by Sir Henry Brackenbury on "Patient and Doctor." Lectures will be given on Wednesdays from October 24th to December 12th, at 4 p.m.

The annual meeting of the Société Française d'Orthopédie will be held at the Paris Faculty of Medicine on October 12th, when the following questions will be discussed: the funnel-shaped thorax, introduced by Dr. Garnier of Paris, and treatment of spastic paralysis, introduced by Drs. Roudel of Marseilles and Delchef of Brussels.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that lecture-demonstrations will be given at 11, Chandos Street, W., at 2.30 p.m. on October 9th and 16th. Courses of instruction include a week-end course on diseases of the heart and lungs at the Royal Chest Hospital, occupying the whole of October 13th and 14th; medicine and surgery, at the Metropolitan General Hospital, from October 8th to 20th, 10.30 a.m. to 6.30 p.m.; cardiology at the National Hospital for Diseases of the Heart, October 8th to 20th, occupying the whole of each day; ophthalmology at the Royal Westminster Ophthalmic Hospital, October 15th to November 3rd, every afternoon; gynaecology at the Chelsea Hospital for Women, October 22nd to November 3rd; neurology at the West End Hospital for Nervous Diseases, October 29th to November 3rd; and two week-end courses, one on clinical surgery at the Royal Albert Dock Hospital, October 20th and 21st, and the second on chest diseases

at the Hospital for Consumption, Brompton, October 27th and 28th. These courses are open only to members and associates of the Fellowship.

The People's League of Health has arranged the following lectures in connexion with the Borough of Southwark's health week: October 8th, "The Laws of Health," Dr. Leslie J. Harris; October 9th, "Eyes," Mr. A. F. MacCallan; October 10th, "Does it matter what we Eat?" Professor V. H. Mottram; October 11th, "Teeth —How They Come and Why They Go," Mr. Francis V. Macguire; October 12th, "Preventable Disease in the Home," Sir Bruce Bruce-Porter; October 13th, "Every Man His Own Doctor," Dr. Harry Campbell. The meetings will be held at the lecture hall, Manor Place Baths, S.E.17, at 8 p.m.

University College Hospital Medical School has arranged a programme of post-graduate demonstrations for the benefit of old students on Thursday and Friday, October 11th and 12th, from 10 a.m. to 4 p.m. At 4.15 p.m. on October 12th the annual general meeting of the Old Students' Club will be held in the Medical School, under the chairmanship of the president, Surgeon Vice-Admiral Sir Arthur Gaskell. At 7.30 p.m. the same day the annual dinner (12s. 6d. exclusive of wines) will be held in the library of the Medical School. The annual dinner of the University College Hospital Medical Women's Association will be held at the Piccadilly Hotel on Friday, October 12th, at 7.45 p.m., preceded by the annual general meeting at 7.15.

The National Hospital, Queen Square, W.C., has arranged a post-graduate course from Monday, October 8th, to Friday, December 7th. The course will include out-patient clinics each week-day, except Saturday, at 2 p.m., lectures and clinical demonstrations each week-day, except Saturday, at 3.30 p.m.; demonstrations on the pathology of the nervous system, on Wednesdays and Thursdays at 12 noon, on the anatomy of the nervous system, on Mondays at 12 noon, and on methods of clinical examination, on Thursdays at 5 p.m. The fee for the course is £10 10s.; for those who hold perpetual tickets, and for clinical clerks, £8 8s.

At a sessional meeting of the Royal Sanitary Institute at Sunderland on Friday, October 12th, a discussion on "Vermin and Slum Clearance" will be opened by Dr. A. S. Hebblethwaite, medical officer of health for Sunderland; and a discussion on "Anaemias and Preventive Medicine" will be introduced by Dr. H. A. Cookson. Mr. W. T. Creswell, K.C., will preside over the meeting, which begins at 5 p.m., in the Town Hall.

The third congress of the Latin Medical Press will be held in Paris under the presidency of Professor G. Etienne of Nancy, from October 17th to the 21st, when the following papers, among others, will be read by French, Belgian, Spanish, Portuguese, and Rumanian representatives: the relations of the medical press with pharmaceutical advertisements; the scientific and moral responsibility of the Latin medical press; and the technique and presentation of a medical journal. Further information can be had from the general secretary, Dr. L. M. Pierra, L'Hérmitage, Luxeuil, Haute Saône, France.

The fortieth Italian Congress of Internal Medicine will be held at Rome under the presidency of Professor Cesare Frugoni from October 17th to 20th, when the following papers will be read: "Meteorism," by Professors N. Pende and M. Bufano; "Vaccine and Non-specific Treatment of Infectious Diseases," by Professors A. Ferrata and G. Boeri; "Bronchiectasis" (in conjunction with the Italian Society of Surgery), by Professors A. Omodei Zorini, R. Alessandri, F. Lassagna, and A. Vallebona; and "Pleurisy in the Army," by Major R. D'Alessandro. Further information can be obtained from the general secretary, Professor Arnaldo Pozzi, R. Clinica Medica, Rome.

A committee consisting of ophthalmologists and oto-rhino-laryngologists has been formed at Marseilles to commemorate the first operation performed under local cocaine anaesthesia in October, 1884. The ceremony will take place on October 27th. Further information can be obtained from Dr. Roche, Marseilles.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

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QUERIES AND ANSWERS

Catarrhal Jaundice following T.A.B. Inoculation

Dr. ARTHUR D. SPENCE (London, E.C.1) writes: It would be interesting to know whether others have had the experience described below. I have given many hundreds of anti-typhoid inoculations, but have not had catarrhal jaundice occur before, though in the course of typhoid fever in the East we sometimes saw varying degrees of jaundice. A young assistant in a merchant firm in Bangkok had the usual 0.5 c.cm. first T.A.B. inoculation preparatory to his return to the East, on Thursday, August 9th. On Saturday night he had a severe rigor and vomiting, and later a temperature of 102° F. Next day he developed a typical catarrhal jaundice, with occasional vomiting. He later became deeply jaundiced and the itching of the skin was very marked. The jaundice ran a usual course, but I did not care to give him his second dose, and he left for the East on August 23rd. The vaccine was prepared at the Lister Institute of Preventive Medicine.

Treatment of Disseminated Sclerosis

"M.D., D.P.H." writes from Essex: Campolon has, I understand, been used with some success in subacute degeneration of the cord in cases of pernicious anaemia. I should be pleased to hear if any of your readers has tried this preparation in disseminated sclerosis and with what result. If success can be attained in the former case, why not in the latter?

Nail-biting

"M. P." writes from Cornwall: A man who was a persistent nail-biter in his boyhood and for long spells in later years found the habit impossible to control had gall-stones removed when over 50 and now for ten years has had no tendency whatever to resume the practice. I suggest that in many if not in all cases there is a centre of irritation which should be sought and treated. As the gall-bladder would appear to be the likeliest site for the irritation it may one day be accepted that nail-biting is a symptom of gall-stones!

Income Tax

Purchase of Additional Practice

"G.P." purchased the goodwill of a practice from "X," a retiring practitioner, the consideration being the payment to "X" of half the fees received from his patients for the following two years. The inspector of taxes insists on treating "G.P." as having commenced a new practice as from the date of the amalgamation. Is this legally correct?

*** Yes. The practice must be regarded as a new one, and "G.P." is assessable on his (presumably) increased profits as from the date of amalgamation of the practices. He cannot exclude the cash received and handed on to "X" because that represents the capital amount he is

paying for the additional connexion. The hardship so far as "G.P." is concerned is that he is in effect forced into the position of having to pay tax on income (that is, the fees due for work done after the amalgamation) before it is received, or if received, has partially been expended in capital payment.

Tax on Interest Paid

"J. C. C." is liable for payment to an insurance company of interest as follows: gross amount, £32, less income tax, £8—net amount payable, £24. He asks why he should pay income tax every year, since the loan was received once only.

⁂ The payment of tax by "J. C. C." has nothing to do with the receipt of the loan, which was a "capital" transaction, but is merely the way in which the tax due from the company on the £32 reaches the Revenue. If there were no tax "J. C. C." would pay the company £32; as it is, he pays the company £24 and the Revenue £8—that is, £32 in all. In other words, he does not ultimately bear the £8 tax; he is merely the channel by which it reaches the proper quarter.

LETTERS, NOTES, ETC.

Diagnosis of Endocrine Dysfunction

"A. G." (Bathford) writes: I venture to suggest that an observation in connexion with abnormal functioning of the endocrine glands may be of more extended interest than has perhaps been realized. The following passage occurs in *The Tides of Life* (R. G. Hoskins): "There is some evidence that the pancreas of the developing foetus may in a measure function in the latter part of pregnancy to correct the insulin deficiency in the diabetic mother. In experimental animals suffering from pancreatic deficiency events may progress fairly satisfactorily until the birth of the offspring, after which death of the mother from acute insulin deficiency may promptly take place (Carlson). In conformity with the foregoing, Mazer and Goldstein have recently noted indisputable *evidence of over-production of insulin in an infant of a diabetic mother for several days after its birth.*" (Italics mine.) The phenomenon of amelioration of symptoms during pregnancy is not confined to diabetes alone, and this suggestion that a normal foetus may be supplying a glandular deficiency in the mother seems an interesting explanation of what may be occurring in all these cases. If this were so, and since the infant shows signs of over-activity of the crucial gland for a few days after birth, the question arises whether, by observing the newborn infants of mothers suffering from various complaints, it might not be possible to ascertain which gland in the mother is lacking in efficiency. The disease in which such an observation would perhaps be of the greatest interest is the primary form of rheumatoid arthritis. Of this complaint Dr. W. S. C. Copeman writes: "Symptoms will often clear up during a pregnancy which occurs in the course of the disease, but return in most cases with redoubled vigour after parturition" (*The Treatment of Rheumatism in General Practice*). If the offspring of such mothers were found to show signs of some glandular over-activity, that might prove quite a useful pointer in the study of the arthritis enigma. In other conditions also, such as epilepsy and allergy, where remission of symptoms occurs during pregnancy, it might be possible by the above means to learn something either of the aetiology of the disease or of the constitutional weakness of the particular patient.

Graham Lusk

The name of Graham Lusk is familiar to our readers through his book *Elements of the Science of Nutrition*. Those desiring to learn something of his career and personality may be recommended to turn to a comprehensive article by Amos E. Light in the *Yale Journal of Biology and Medicine* (May, 1934, vi, 487), which is illustrated by a striking photograph and contains a full bibliography. The son of a distinguished obstetrician, Lusk was born in Bridgeport, Connecticut, in 1866. Deafness led him to take up chemistry rather than medicine as a career, and he began by studying chemical engineering at Columbia School of Mines. At Munich he had the good fortune to work under Carl von Voit, whom he never failed to visit when subsequently travelling in Europe. In 1895 he became professor of physiology at Yale, where his department consisted of one room only, which he cleaned himself. He later occupied the chairs of physiology at Bellevue Hospital Medical College and at Cornell University, and in 1912 became director of the Russell Sage Institute of Pathology at New York. He retired just before his death, which occurred on July 18th, 1932, at the age of 66. His more important contributions to physiology include his researches on clinical calorimetry, specific dynamic action of proteins, phlorhizin glycosuria, and diabetes mellitus. He was the founder and first president of the Harvey Society. Throughout his career he advocated the migration of directors and instructors from one school to another to lower the possibility of either becoming too self-centred.

Blood Pressure Risks

"L.R.C.P." writes from Co. Durham: With reference to the correspondence in the *Journal* of September 15th, under the headings "Is High Blood Pressure a Risk?" and "Is the Taking of Blood Pressure a Risk?" the answer is, in my experience, "Yes" to the first query, and "No" to the second. I have very little doubt that the fatalities mentioned by Dr. Hunter are coincidences such as have occurred during serum administration. I have taken several thousand blood pressure readings, including two hundred of a patient who died from angina pectoris. I took readings from the same patient during two attacks. He died a few hours later in another attack. There were no ill effects from my observations extending over a period of twenty years. In the second tragic occurrence the blood pressure reading was 140/120, too low a systolic pressure for a patient with such a high diastolic reading, and in my opinion means a weakened or degenerated myocardium. Confirmation may be obtained from the character of the breathing and the rhythm of the pulse. If the breathing is audible with or without separation of the lips and teeth and the lower intercostal spaces are indrawn, coupled with a poor exercise tolerance, and if on auscultating over the cardiac area for at least two minutes a silence is detected during a complete cardiac cycle, or an alteration in the rhythm, where two normal beats are followed rapidly by five or six small beats—then I believe the myocardium to be extensively degenerated, and sudden death may follow.

Substitute for Oiled Silk

Dr. W. Washbourn, C.B.E. (Blackfriars, Gloucester), writes: A patient has recently called my attention to the virtues of a substance named "gelaphane," as a substitute for oiled silk for fomentations, etc. I have given it a good trial and find it more efficient, and far cheaper, costing about 1s. 8d. a square yard, as against 3s. for oiled silk.

⁂ We have made inquiries, and learn that the substance Dr. Washbourn mentions is manufactured by Gelaphane, Ltd., Severn Road, Gloucester.

Playfair's Probe as Pipe-cleaner

Dr. Douglas Seaton (Leeds) writes: I should like to congratulate Dr. D. V. Latham (September 29th, p. 618) on his ingenuity in using pipe-cleaners in place of a Playfair's probe. I have not had any occasion to use this instrument for its original purpose for some years, but have found it a very efficient pipe-cleaner.

Disclaimer

Dr. A. M. Valerie Bonhote (Tadworth) writes: I am not in any way responsible for the publication, in lay newspapers, of an extract from my letter which was published in the *British Medical Journal* of last week on page 618.

⁂ We sympathize with Dr. Bonhote: but she is not the first (and will not, we fear, be the last) to suffer from unsought publicity of this kind.

Corrigendum

Our attention has been drawn to a mistake in the article "Numbers of the Medical Profession," published on September 1st (p. 389). In the sentence beginning "According to statistics published last year by the International Labour Office the country with the most medical practitioners is England, with 1 doctor to every *822* inhabitants" the figure should have been *1,490*. The reference is the *Quarterly Bulletin* of the Health Organization of the League of Nations, vol. ii, No. 4, December, 1933.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 51, 52, 53, 56, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 54 and 55.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *192*.